

SEQUENCE LISTING

<110> Powell, Douglas M.

<120> METHODS AND COMPOSITIONS FOR TREATING

AIDS AND HIV-RELATED DISORDERS USING 9145, 1725, 311, 837,
58305, 156, 14175, 50352, 32678, 5560, 7240, 8865, 12396,
12397, 13644, 19938, 2077, 1735, 1786, 10220, 17822, 33945,
43748, 47161, 81982 OR 46777

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<151> 2003-03-12

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Met Ala Phe Met Lys

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Leu Ala Lys Met Gly Ala His Val Val Val Thr Ala Arg Ser Lys Glu	
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act cta cag aag gtg gta tcc cac tgc ctg gag ctt gga gca gcc tca	356
Thr Leu Gln Lys Val Val Ser His Cys Leu Glu Leu Gly Ala Ala Ser	
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Ala His Tyr Ile Ala Gly Thr Met Glu Asp Met Thr Phe Ala Glu Gln	
90 95 100	
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Phe Val Ala Gln Ala Gly Lys Leu Met Gly Gly Leu Asp Met Leu Ile	
105 110 115	
ctc aac cac atc acc aac act tct ttg aat ctt ttt cat gat gat att	500
Leu Asn His Ile Thr Asn Thr Ser Leu Asn Leu Phe His Asp Asp Ile	
120 125 130	
cac cat gtg cgc aaa agc atg gaa gtc aac ttc ctc agt tac gtg gtc	548
His His Val Arg Lys Ser Met Glu Val Asn Phe Leu Ser Tyr Val Val	
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Leu Thr Val Ala Ala Leu Pro Met Leu Lys Gln Ser Asn Gly Ser Ile	
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gtt gtc gtc tcc tct ctg gct ggg aaa gtg gct tat cca atg gtt gct	644
Val Val Val Ser Ser Leu Ala Gly Lys Val Ala Tyr Pro Met Val Ala	
170 175 180	
gcc tat tct gca agc aag ttt gct ttg gat ggg ttc ttc tcc tcc atc	692
Ala Tyr Ser Ala Ser Lys Phe Ala Leu Asp Gly Phe Phe Ser Ser Ile	
185 190 195	
aga aag gaa tat tca gtg tcc agg gtc aat gta tca atc act ctc tgt	740
Arg Lys Glu Tyr Ser Val Ser Arg Val Asn Val Ser Ile Thr Leu Cys	
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gtt ctt ggc ctc ata gac aca gaa aca gcc atg aag gca gtt tct ggg	788
Val Leu Gly Leu Ile Asp Thr Glu Thr Ala Met Lys Ala Val Ser Gly	
215 220 225	
ata gtc cat atg caa gca gct cca aag gag gaa tgt gcc ctg gag atc	836
Ile Val His Met Gln Ala Ala Pro Lys Glu Glu Cys Ala Leu Glu Ile	
230 235 240 245	
atc aaa ggg gga gct ctg cgc cag gaa gaa gtg tat tat gac agc tca	884
Ile Lys Gly Gly Ala Leu Arg Gln Glu Glu Val Tyr Tyr Asp Ser Ser	
250 255 260	
ctc tgg acc act ctt ctg atc aga aat cca tgc agg aag atc ctg gaa	932
Leu Trp Thr Thr Leu Leu Ile Arg Asn Pro Cys Arg Lys Ile Leu Glu	
265 270 275	

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tgaatgtcat gcaccgctgc agccagcagt tgtaaaattg ttagtaaaca taggtataat 1220
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Gln Gly Lys Lys Val Ile Val Thr Gly Ala Ser Lys Gly Ile Gly Arg
35      40      45
Glu Met Ala Tyr His Leu Ala Lys Met Gly Ala His Val Val Val Thr
50      55      60
Ala Arg Ser Lys Glu Thr Leu Gln Lys Val Val Ser His Cys Leu Glu
65      70      75      80
Leu Gly Ala Ala Ser Ala His Tyr Ile Ala Gly Thr Met Glu Asp Met
85      90      95
Thr Phe Ala Glu Gln Phe Val Ala Gln Ala Gly Lys Leu Met Gly Gly
100     105     110
Leu Asp Met Leu Ile Leu Asn His Ile Thr Asn Thr Ser Leu Asn Leu
115     120     125
Phe His Asp Asp Ile His His Val Arg Lys Ser Met Glu Val Asn Phe
130     135     140
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145     150     155     160
Ser Asn Gly Ser Ile Val Val Val Ser Ser Leu Ala Gly Lys Val Ala
165     170     175
Tyr Pro Met Val Ala Ala Tyr Ser Ala Ser Lys Phe Ala Leu Asp Gly
180     185     190
Phe Phe Ser Ser Ile Arg Lys Glu Tyr Ser Val Ser Arg Val Asn Val
195     200     205
Ser Ile Thr Leu Cys Val Leu Gly Leu Ile Asp Thr Glu Thr Ala Met
210     215     220
Lys Ala Val Ser Gly Ile Val His Met Gln Ala Ala Pro Lys Glu Glu
225     230     235     240
Cys Ala Leu Glu Ile Ile Lys Gly Gly Ala Leu Arg Gln Glu Glu Val
245     250     255
Tyr Tyr Asp Ser Ser Leu Trp Thr Thr Leu Leu Ile Arg Asn Pro Cys
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Phe Ile Asn Lys
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Gly Leu Pro Ser Leu Leu Phe Leu Leu Leu Cys Tyr Gly His Pro Leu
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ctg gtc cct agc cag gag gca tcc caa cag gtg aca gtc acc cat ggg      148
Leu Val Pro Ser Gln Glu Ala Ser Gln Gln Val Thr Val Thr His Gly
  25                               30                               35                               40

aca agc agc cag gca aca acc agc agc cag aca acc acc cac cag gcg      196
Thr Ser Ser Gln Ala Thr Thr Ser Ser Gln Thr Thr Thr His Gln Ala
                        45                               50                               55

acg gcc cac cag aca tca gcc cag agc cca aac ctg gtg act gat gag      244
Thr Ala His Gln Thr Ser Ala Gln Ser Pro Asn Leu Val Thr Asp Glu
                        60                               65                               70

gct gag gcc agc aag ttt gtg gag gaa tat gac cgg aca tcc cag gtg      292
Ala Glu Ala Ser Lys Phe Val Glu Glu Tyr Asp Arg Thr Ser Gln Val
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gtg tgg aac gag tat gcc gag gcc aac tgg aac tac aac acc aac atc      340
Val Trp Asn Glu Tyr Ala Glu Ala Asn Trp Asn Tyr Asn Thr Asn Ile
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acc aca gag acc agc aag att ctg ctg cag aag aac atg caa ata gcc      388
Thr Thr Glu Thr Ser Lys Ile Leu Leu Gln Lys Asn Met Gln Ile Ala
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aac cac acc ctg aag tac ggc acc cag gcc agg aag ttt gat gtg aac      436
Asn His Thr Leu Lys Tyr Gly Thr Gln Ala Arg Lys Phe Asp Val Asn
                        125                               130                               135

cag ttg cag aac acc act atc aag cgg atc ata aag aag gtt cag gac      484
Gln Leu Gln Asn Thr Thr Ile Lys Arg Ile Ile Lys Lys Val Gln Asp
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cta gaa cgg gca gcg ctg cct gcc cag gag ctg gag gag tac aac aag      532
Leu Glu Arg Ala Ala Leu Pro Ala Gln Glu Leu Glu Glu Tyr Asn Lys
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atc ctg ttg gat atg gaa acc acc tac agc gtg gcc act gtg tgc cac      580
Ile Leu Leu Asp Met Glu Thr Thr Tyr Ser Val Ala Thr Val Cys His
  170                               175                               180

ccg aat ggc agc tgc ctg cag ctc gag cca gat ctg acg aat gtg atg      628
Pro Asn Gly Ser Cys Leu Gln Leu Glu Pro Asp Leu Thr Asn Val Met
  185                               190                               195                               200

gcc aca tcc cgg aaa tat gaa gac ctg tta tgg gca tgg gag ggc tgg      676
Ala Thr Ser Arg Lys Tyr Glu Asp Leu Leu Trp Ala Trp Glu Gly Trp
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Glu	Leu	Ile	Asn	Gln	Ala	Ala	Arg	Leu	Asn	Gly	Tyr	Val	Asp	Ala	Gly					
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gac	tcg	tgg	agg	tct	atg	tac	gag	aca	cca	tcc	ctg	gag	caa	gac	ctg	820				
Asp	Ser	Trp	Arg	Ser	Met	Tyr	Glu	Thr	Pro	Ser	Leu	Glu	Gln	Asp	Leu					
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gag	cgg	ctc	ttc	cag	gag	ctg	cag	cca	ctc	tac	ctc	aac	ctg	cat	gcc	868				
Glu	Arg	Leu	Phe	Gln	Glu	Leu	Gln	Pro	Leu	Tyr	Leu	Asn	Leu	His	Ala					
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tac	gtg	cgc	cgg	gcc	ctg	cac	cgt	cac	tac	ggg	gcc	cag	cac	atc	aac	916				
Tyr	Val	Arg	Arg	Ala	Leu	His	Arg	His	Tyr	Gly	Ala	Gln	His	Ile	Asn					
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acc	tgg	tcc	aac	atc	tat	gac	ttg	gtg	gtg	ccc	ttc	cct	tca	gcc	ccc	1012				
Thr	Trp	Ser	Asn	Ile	Tyr	Asp	Leu	Val	Val	Pro	Phe	Pro	Ser	Ala	Pro					
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Ser	Met	Asp	Thr	Thr	Glu	Ala	Met	Leu	Lys	Gln	Gly	Trp	Thr	Pro	Arg					
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ccc	gtg	cct	cct	gag	ttc	tgg	aac	aag	tcg	atg	ctg	gag	aag	cca	acc	1156				
Pro	Val	Pro	Pro	Glu	Phe	Trp	Asn	Lys	Ser	Met	Leu	Glu	Lys	Pro	Thr					
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Leu	Val	Val	Ala	His	His	Glu	Met	Gly	His	Ile	Gln	Tyr	Phe	Met	Gln					
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tac	aaa	gac	tta	cct	gtg	gcc	ttg	agg	gag	ggg	gcc	aac	ccc	ggc	ttc	1348				
Tyr	Lys	Asp	Leu	Pro	Val	Ala	Leu	Arg	Glu	Gly	Ala	Asn	Pro	Gly	Phe					
425					430					435					440					
cat	gag	gcc	att	ggg	gac	gtg	cta	gcc	ctc	tca	gtg	tct	acg	ccc	aag	1396				
His	Glu	Ala	Ile	Gly	Asp	Val	Leu	Ala	Leu	Ser	Val	Ser	Thr	Pro	Lys					
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cat gac atc aac ttt ctg atg aag atg gcc ctt gac aag atc gcc ttt	1492
His Asp Ile Asn Phe Leu Met Lys Met Ala Leu Asp Lys Ile Ala Phe	
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atc ccc ttc agc tac ctc gtc gat cag tgg cgc tgg agg gta ttt gat	1540
Ile Pro Phe Ser Tyr Leu Val Asp Gln Trp Arg Trp Arg Val Phe Asp	
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gga agc atc acc aag gag aac tat aac cag gag tgg tgg agc ctc agg	1588
Gly Ser Ile Thr Lys Glu Asn Tyr Asn Gln Glu Trp Trp Ser Leu Arg	
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ctg aag tac cag ggc ctc tgc ccc cca gtg ccc agg act caa ggt gac	1636
Leu Lys Tyr Gln Gly Leu Cys Pro Pro Val Pro Arg Thr Gln Gly Asp	
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Phe Asp Pro Gly Ala Lys Phe His Ile Pro Ser Ser Val Pro Tyr Ile	
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Arg Tyr Phe Val Ser Phe Ile Ile Gln Phe Gln Phe His Glu Ala Leu	
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Cys Gln Ala Ala Gly His Thr Gly Pro Leu His Lys Cys Asp Ile Tyr	
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Gln Ser Lys Glu Ala Gly Gln Arg Leu Ala Thr Ala Met Lys Leu Gly	
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Phe Ser Arg Pro Trp Pro Glu Ala Met Gln Leu Ile Thr Gly Gln Pro	
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Gln Tyr Asn Trp Thr Pro Asn Ser Ala Arg Ser Glu Gly Pro Leu Pro	
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gcc cgc gtg ggc cag tgg ctg ctg ctc ttc ctg ggc atc gcc ctg ctg	2116
Ala Arg Val Gly Gln Trp Leu Leu Leu Phe Leu Gly Ile Ala Leu Leu	
685 690 695	

gta gcc acc ctg ggc ctc agc cag cgg ctc ttc agc atc cgc cac cgc 2164
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 700 705 710

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 Ser Leu His Arg His Ser His Gly Pro Gln Phe Gly Ser Glu Val Glu
 715 720 725

 ctg aga cac tcc tga ggtgacccgg ctgggtcggc cctgcccagg ggcctccac 2267
 Leu Arg His Ser *
 730

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 Ser Gln Thr Thr Thr His Gln Ala Thr Ala His Gln Thr Ser Ala Gln
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 Ser Pro Asn Leu Val Thr Asp Glu Ala Glu Ala Ser Lys Phe Val Glu
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 Glu Tyr Asp Arg Thr Ser Gln Val Val Trp Asn Glu Tyr Ala Glu Ala
 85 90 95
 Asn Trp Asn Tyr Asn Thr Asn Ile Thr Thr Glu Thr Ser Lys Ile Leu
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 Leu Gln Lys Asn Met Gln Ile Ala Asn His Thr Leu Lys Tyr Gly Thr
 115 120 125
 Gln Ala Arg Lys Phe Asp Val Asn Gln Leu Gln Asn Thr Thr Ile Lys
 130 135 140
 Arg Ile Ile Lys Lys Val Gln Asp Leu Glu Arg Ala Ala Leu Pro Ala
 145 150 155 160
 Gln Glu Leu Glu Glu Tyr Asn Lys Ile Leu Leu Asp Met Glu Thr Thr
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 Glu Pro Asp Leu Thr Asn Val Met Ala Thr Ser Arg Lys Tyr Glu Asp
 195 200 205
 Leu Leu Trp Ala Trp Glu Gly Trp Arg Asp Lys Ala Gly Arg Ala Ile
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 Leu Gln Phe Tyr Pro Lys Tyr Val Glu Leu Ile Asn Gln Ala Ala Arg
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 Leu Asn Gly Tyr Val Asp Ala Gly Asp Ser Trp Arg Ser Met Tyr Glu
 245 250 255
 Thr Pro Ser Leu Glu Gln Asp Leu Glu Arg Leu Phe Gln Glu Leu Gln
 260 265 270
 Pro Leu Tyr Leu Asn Leu His Ala Tyr Val Arg Arg Ala Leu His Arg
 275 280 285
 His Tyr Gly Ala Gln His Ile Asn Leu Glu Gly Pro Ile Pro Ala His
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Leu Leu Gly Asn Met Trp Ala Gln Thr Trp Ser Asn Ile Tyr Asp Leu
 305 310 315 320
 Val Val Pro Phe Pro Ser Ala Pro Ser Met Asp Thr Thr Glu Ala Met
 325 330 335
 Leu Lys Gln Gly Trp Thr Pro Arg Arg Met Phe Lys Glu Ala Asp Asp
 340 345 350
 Phe Phe Thr Ser Leu Gly Leu Leu Pro Val Pro Pro Glu Phe Trp Asn
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 Lys Ser Met Leu Glu Lys Pro Thr Asp Gly Arg Glu Val Val Cys His
 370 375 380
 Ala Ser Ala Trp Asp Phe Tyr Asn Gly Lys Asp Phe Arg Ile Lys Gln
 385 390 395 400
 Cys Thr Thr Val Asn Leu Glu Asp Leu Val Val Ala His His Glu Met
 405 410 415
 Gly His Ile Gln Tyr Phe Met Gln Tyr Lys Asp Leu Pro Val Ala Leu
 420 425 430
 Arg Glu Gly Ala Asn Pro Gly Phe His Glu Ala Ile Gly Asp Val Leu
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 Ala Leu Ser Val Ser Thr Pro Lys His Leu His Ser Leu Asn Leu Leu
 450 455 460
 Ser Ser Glu Gly Gly Ser Asp Glu His Asp Ile Asn Phe Leu Met Lys
 465 470 475 480
 Met Ala Leu Asp Lys Ile Ala Phe Ile Pro Phe Ser Tyr Leu Val Asp
 485 490 495
 Gln Trp Arg Trp Arg Val Phe Asp Gly Ser Ile Thr Lys Glu Asn Tyr
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 Pro Val Pro Arg Thr Gln Gly Asp Phe Asp Pro Gly Ala Lys Phe His
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 595 600 605
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 Ser Tyr Phe Lys Pro Leu Leu Asp Trp Leu Arg Thr Glu Asn Glu Leu
 625 630 635 640
 His Gly Glu Lys Leu Gly Trp Pro Gln Tyr Asn Trp Thr Pro Asn Ser
 645 650 655
 Ala Arg Ser Glu Gly Pro Leu Pro Asp Ser Gly Arg Val Ser Phe Leu
 660 665 670
 Gly Leu Asp Leu Asp Ala Gln Gln Ala Arg Val Gly Gln Trp Leu Leu
 675 680 685
 Leu Phe Leu Gly Ile Ala Leu Leu Val Ala Thr Leu Gly Leu Ser Gln
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Met Asn Arg His His Leu Gln Asp His Phe Leu Glu Ile Asp Lys Lys
1 5 10 15

aac tgc tgt gtg ttc cga gat gac ttc att gcc aag gtg ttg ccg ccg 156
Asn Cys Cys Val Phe Arg Asp Asp Phe Ile Ala Lys Val Leu Pro Pro
20 25 30

gtg ttg ggg ctg gag ttt atc ttt ggg ctt ctg ggc aat ggc ctt gcc 204
Val Leu Gly Leu Glu Phe Ile Phe Gly Leu Leu Gly Asn Gly Leu Ala
35 40 45

ctg tgg att ttc tgt ttc cac ctc aag tcc tgg aaa tcc agc cgg att 252
Leu Trp Ile Phe Cys Phe His Leu Lys Ser Trp Lys Ser Ser Arg Ile
50 55 60

ttc ctg ttc aac ctg gca gta gct gac ttt cta ctg atc atc tgc ctg 300
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ccg ttc gtg atg gac tac tat gtg cgg cgt tca gac tgg aac ttt ggg 348
Pro Phe Val Met Asp Tyr Tyr Val Arg Ser Asp Trp Asn Phe Gly
85 90 95

gac atc cct tgc cgg ctg gtg ctc ttc atg ttt gcc atg aac cgc cag 396
Asp Ile Pro Cys Arg Leu Val Leu Phe Met Phe Ala Met Asn Arg Gln
100 105 110

ggc agc atc atc ttc ctc acg gtg gtg gcg gta gac agg tat ttc cgg 444
Gly Ser Ile Ile Phe Leu Thr Val Val Ala Val Asp Arg Tyr Phe Arg
115 120 125

gtg gtc cat ccc cac cac gcc ctg aac aag atc tcc aat tgg aca gca 492
Val Val His Pro His His Ala Leu Asn Lys Ile Ser Asn Trp Thr Ala
130 135 140

gcc atc atc tct tgc ctt ctg tgg ggc atc act gtt ggc cta aca gtc 540
Ala Ile Ile Ser Cys Leu Leu Trp Gly Ile Thr Val Gly Leu Thr Val
145 150 155 160

cac ctc ctg aag aag aag ttg ctg atc cag aat ggc cct gca aat gtg 588
His Leu Leu Lys Lys Lys Leu Leu Ile Gln Asn Gly Pro Ala Asn Val
165 170 175

tgc atc agc ttc agc atc tgc cat acc ttc cgg tgg cac gaa gct atg 636
Cys Ile Ser Phe Ser Ile Cys His Thr Phe Arg Trp His Glu Ala Met
180 185 190

ttc ctc ctg gag ttc ctc ctg ccc ctg ggc atc atc ctg ttc tgc tca 684
Phe Leu Leu Glu Phe Leu Leu Pro Leu Gly Ile Ile Leu Phe Cys Ser
195 200 205

gcc aga att atc tgg agc ctg cgg cag aga caa atg gac cgg cat gcc 732
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210 215 220

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Lys Ile Lys Arg Ala Ile Thr Phe Ile Met Val Val Ala Ile Val Phe	
225 230 235 240	
gtc atc tgc ttc ctt ccc agc gtg gtt gtg cgg atc cgc atc ttc tgg	828
Val Ile Cys Phe Leu Pro Ser Val Val Val Arg Ile Arg Ile Phe Trp	
245 250 255	
ctc ctg cac act tcg ggc acg cag aat tgt gaa gtg tac cgc tcg gtg	876
Leu Leu His Thr Ser Gly Thr Gln Asn Cys Glu Val Tyr Arg Ser Val	
260 265 270	
gac ctg gcg ttc ttt atc act ctc agc ttc acc tac atg aac agc atg	924
Asp Leu Ala Phe Phe Ile Thr Leu Ser Phe Thr Tyr Met Asn Ser Met	
275 280 285	
ctg gac ccc gtg gtg tac tac ttc tcc agc cca tcc ttt ccc aac ttc	972
Leu Asp Pro Val Val Tyr Tyr Phe Ser Ser Pro Ser Phe Pro Asn Phe	
290 295 300	
ttc tcc act ttg atc aac cgc tgc ctc cag agg aag atg aca ggt gag	1020
Phe Ser Thr Leu Ile Asn Arg Cys Leu Gln Arg Lys Met Thr Gly Glu	
305 310 315 320	
cca gat aat aac cgc agc acg agc gtc gag ctc aca ggg gac ccc aac	1068
Pro Asp Asn Asn Arg Ser Thr Ser Val Glu Leu Thr Gly Asp Pro Asn	
325 330 335	
aaa acc aga ggc gct cca gag gcg tta atg gcc aac tcc ggt gag cca	1116
Lys Thr Arg Gly Ala Pro Glu Ala Leu Met Ala Asn Ser Gly Glu Pro	
340 345 350	
tgg agc ccc tct tat ctg ggc cca acc tca aat aac cat tcc aag aag	1164
Trp Ser Pro Ser Tyr Leu Gly Pro Thr Ser Asn Asn His Ser Lys Lys	
355 360 365	
gga cat tgt cac caa gaa cca gca tct ctg gag aaa cag ttg ggc tgt	1212
Gly His Cys His Gln Glu Pro Ala Ser Leu Glu Lys Gln Leu Gly Cys	
370 375 380	
tgc atc gag taa tgtcactgga ctgcgcctaa ggtttctctgg aacttccaga	1264
Cys Ile Glu *	
385	
ttcagagaat ctgatttagg gaaactgtgg cagatgagtg ggagactggt tgcaagggtgt	1324
gaccacagga atcctggagg aacagagagt aaagcttcta ggcactctgaa acttgcttca	1384
tctctgacgc tcgcaggact gaagatgggc aaattgtagg cgtttctgct gagcagagtt	1444
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tgctttcaac cagcgactaa tgcaatccat tctctcttg tttatagtaa tctaagggtt	1864
gagcagttaa aacggcttca ggatagaaag ctgtttccca cctgtttcgt tttaccatta	1924
aaagggaaac gtgcctctgc cccacgggta gaggggggtgc acgttccctc tggttccttc	1984
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aaaaaaa	2051

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 <212> PRT
 <213> Homo sapiens

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 Asn Cys Cys Val Phe Arg Asp Asp Phe Ile Ala Lys Val Leu Pro Pro
 20 25 30
 Val Leu Gly Leu Glu Phe Ile Phe Gly Leu Leu Gly Asn Gly Leu Ala
 35 40 45
 Leu Trp Ile Phe Cys Phe His Leu Lys Ser Trp Lys Ser Ser Arg Ile
 50 55 60
 Phe Leu Phe Asn Leu Ala Val Ala Asp Phe Leu Ile Ile Cys Leu
 65 70 75 80
 Pro Phe Val Met Asp Tyr Tyr Val Arg Arg Ser Asp Trp Asn Phe Gly
 85 90 95
 Asp Ile Pro Cys Arg Leu Val Leu Phe Met Phe Ala Met Asn Arg Gln
 100 105 110
 Gly Ser Ile Ile Phe Leu Thr Val Val Ala Val Asp Arg Tyr Phe Arg
 115 120 125
 Val Val His Pro His His Ala Leu Asn Lys Ile Ser Asn Trp Thr Ala
 130 135 140
 Ala Ile Ile Ser Cys Leu Leu Trp Gly Ile Thr Val Gly Leu Thr Val
 145 150 155 160
 His Leu Leu Lys Lys Lys Leu Leu Ile Gln Asn Gly Pro Ala Asn Val
 165 170 175
 Cys Ile Ser Phe Ser Ile Cys His Thr Phe Arg Trp His Glu Ala Met
 180 185 190
 Phe Leu Leu Glu Phe Leu Leu Pro Leu Gly Ile Ile Leu Phe Cys Ser
 195 200 205
 Ala Arg Ile Ile Trp Ser Leu Arg Gln Arg Gln Met Asp Arg His Ala
 210 215 220
 Lys Ile Lys Arg Ala Ile Thr Phe Ile Met Val Val Ala Ile Val Phe
 225 230 235 240
 Val Ile Cys Phe Leu Pro Ser Val Val Val Arg Ile Arg Ile Phe Trp
 245 250 255
 Leu Leu His Thr Ser Gly Thr Gln Asn Cys Glu Val Tyr Arg Ser Val
 260 265 270
 Asp Leu Ala Phe Phe Ile Thr Leu Ser Phe Thr Tyr Met Asn Ser Met
 275 280 285
 Leu Asp Pro Val Val Tyr Tyr Phe Ser Ser Pro Ser Phe Pro Asn Phe
 290 295 300
 Phe Ser Thr Leu Ile Asn Arg Cys Leu Gln Arg Lys Met Thr Gly Glu
 305 310 315 320
 Pro Asp Asn Asn Arg Ser Thr Ser Val Glu Leu Thr Gly Asp Pro Asn
 325 330 335
 Lys Thr Arg Gly Ala Pro Glu Ala Leu Met Ala Asn Ser Gly Glu Pro
 340 345 350
 Trp Ser Pro Ser Tyr Leu Gly Pro Thr Ser Asn Asn His Ser Lys Lys
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 Gly His Cys His Gln Glu Pro Ala Ser Leu Glu Lys Gln Leu Gly Cys
 370 375 380
 Cys Ile Glu
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<212> DNA
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                                     Met Arg Cys Ser
                                     1

ccg gga ggc gtc tgg ctg ggc ctg gcc gcg tgc ctc ctg cac gtg tcc 163
Pro Gly Gly Val Trp Leu Gly Leu Ala Ala Ser Leu Leu His Val Ser
  5                      10                      15                      20

ctg caa ggc gag ttc cag agg aag ctt tac aag gag ctg gtc aag aac 211
Leu Gln Gly Glu Phe Gln Arg Lys Leu Tyr Lys Glu Leu Val Lys Asn
                25                      30                      35

tac aat ccc ttg gag agg ccc gtg gcc aat gac tgc caa cca ctc acc 259
Tyr Asn Pro Leu Glu Arg Pro Val Ala Asn Asp Ser Gln Pro Leu Thr
                40                      45                      50

gtc tac ttc tcc ctg agc ctc ctg cag atc atg gac gtg gat gag aag 307
Val Tyr Phe Ser Leu Ser Leu Leu Gln Ile Met Asp Val Asp Glu Lys
                55                      60                      65

aac caa gtt tta acc acc aac att tgg ctg caa atg tct tgg aca gat 355
Asn Gln Val Leu Thr Thr Asn Ile Trp Leu Gln Met Ser Trp Thr Asp
                70                      75                      80

cac tat tta cag tgg aat gtg tca gaa tat cca ggg gtg aag act gtt 403
His Tyr Leu Gln Trp Asn Val Ser Glu Tyr Pro Gly Val Lys Thr Val
                85                      90                      95                      100

cgt ttc cca gat ggc cag att tgg aaa cca gac att ctt ctc tat aac 451
Arg Phe Pro Asp Gly Gln Ile Trp Lys Pro Asp Ile Leu Leu Tyr Asn
                105                      110                      115

agt gct gat gag cgc ttt gac gcc aca ttc cac act aac gtg ttg gtg 499
Ser Ala Asp Glu Arg Phe Asp Ala Thr Phe His Thr Asn Val Leu Val
                120                      125                      130

aat tct tct ggg cat tgc cag tac ctg cct cca ggc ata ttc aag agt 547
Asn Ser Ser Gly His Cys Gln Tyr Leu Pro Pro Gly Ile Phe Lys Ser
                135                      140                      145

tcc tgc tac atc gat gta cgc tgg ttt ccc ttt gat gtg cag cac tgc 595
Ser Cys Tyr Ile Asp Val Arg Trp Phe Pro Phe Asp Val Gln His Cys
                150                      155                      160

aaa ctg aag ttt ggg tcc tgg tct tac gga ggc tgg tcc ttg gat ctg 643
Lys Leu Lys Phe Gly Ser Trp Ser Tyr Gly Gly Trp Ser Leu Asp Leu
                165                      170                      175                      180

cag atg cag gag gca gat atc agt ggc tat atc ccc aat gga gaa tgg 691
Gln Met Gln Glu Ala Asp Ile Ser Gly Tyr Ile Pro Asn Gly Glu Trp
                185                      190                      195

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gac cta gtg gga atc ccc ggc aag agg agt gaa agg ttc tat gag tgc	739
Asp Leu Val Gly Ile Pro Gly Lys Arg Ser Glu Arg Phe Tyr Glu Cys	
200 205 210	
tgc aaa gag ccc tac ccc gat gtc acc ttc aca gtg acc atg cgc cgc	787
Cys Lys Glu Pro Tyr Pro Asp Val Thr Phe Thr Val Thr Met Arg Arg	
215 220 225	
agg aca ctc tac tat ggc ctc aac ctg ctg atc ccc tgt gtg ctc atc	835
Arg Thr Leu Tyr Tyr Gly Leu Asn Leu Leu Ile Pro Cys Val Leu Ile	
230 235 240	
tcc gcc ctc gcc ctg ctg gtg ttc ctg ctt cct gca gat tcc ggg gag	883
Ser Ala Leu Ala Leu Leu Val Phe Leu Leu Pro Ala Asp Ser Gly Glu	
245 250 255 260	
aag att tcc ctg ggg ata aca gtc tta ctc tct ctt acc gtc ttc atg	931
Lys Ile Ser Leu Gly Ile Thr Val Leu Leu Ser Leu Thr Val Phe Met	
265 270 275	
ctg ctc gtg gct gag atc atg ccc gca aca tcc gat tgc gta cca ttg	979
Leu Leu Val Ala Glu Ile Met Pro Ala Thr Ser Asp Ser Val Pro Leu	
280 285 290	
ata gcc cag tac ttc gcc agc acc atg atc atc gtg ggc ctc tgc gtg	1027
Ile Ala Gln Tyr Phe Ala Ser Thr Met Ile Ile Val Gly Leu Ser Val	
295 300 305	
gtg gtg aca gtg atc gtg ctg cag tac cac cac cac gac ccc gac ggg	1075
Val Val Thr Val Ile Val Leu Gln Tyr His His His Asp Pro Asp Gly	
310 315 320	
ggc aag atg ccc aag tgg acc aga gtc atc ctt ctg aac tgg tgc gcg	1123
Gly Lys Met Pro Lys Trp Thr Arg Val Ile Leu Leu Asn Trp Cys Ala	
325 330 335 340	
tgg ttc ctg cga atg aag agg ccc ggg gag gac aag gtg cgc ccg gcc	1171
Trp Phe Leu Arg Met Lys Arg Pro Gly Glu Asp Lys Val Arg Pro Ala	
345 350 355	
tgc cag cac aag cag cgg cgc tgc agc ctg gcc agt gtg gag atg agc	1219
Cys Gln His Lys Gln Arg Arg Cys Ser Leu Ala Ser Val Glu Met Ser	
360 365 370	
gcc gtg ggc ccg ccg ccc gcc agc aac ggg aac ctg ctg tac atc ggc	1267
Ala Val Gly Pro Pro Pro Ala Ser Asn Gly Asn Leu Leu Tyr Ile Gly	
375 380 385	
ttc cgc ggc ctg gac ggc gtg cac tgt gtc ccg acc ccc gac tct ggg	1315
Phe Arg Gly Leu Asp Gly Val His Cys Val Pro Thr Pro Asp Ser Gly	
390 395 400	
gta gtg tgt ggc cgc atg gcc tgc tcc ccc acg cac gat gag cac ctc	1363
Val Val Cys Gly Arg Met Ala Cys Ser Pro Thr His Asp Glu His Leu	
405 410 415 420	
ctg cac ggc ggg caa ccc ccc gag ggg gac ccg gac ttg gcc aag atc	1411
Leu His Gly Gly Gln Pro Pro Glu Gly Asp Pro Asp Leu Ala Lys Ile	
425 430 435	
ctg gag gag gtc cgc tac att gcc aac cgc ttc cgc tgc cag gac gaa	1459

Leu Glu Glu Val Arg Tyr Ile Ala Asn Arg Phe Arg Cys Gln Asp Glu
 440 445 450
 agc gag gcg gtc tgc agc gag tgg aag ttc gcc gcc tgt gtg gtg gac 1507
 Ser Glu Ala Val Cys Ser Glu Trp Lys Phe Ala Ala Cys Val Val Asp
 455 460 465
 cgc ctg tgc ctc atg gcc ttc tcg gtc ttc acc atc atc tgc acc atc 1555
 Arg Leu Cys Leu Met Ala Phe Ser Val Phe Thr Ile Ile Cys Thr Ile
 470 475 480
 ggc atc ctg atg tcg gct ccc aac ttc gtg gag gcc gtg tcc aaa gac 1603
 Gly Ile Leu Met Ser Ala Pro Asn Phe Val Glu Ala Val Ser Lys Asp
 485 490 495 500
 ttt gcg taa ccacactggt tctgtacatg tggaaaactc acagatgggc 1652
 Phe Ala *

aaggcctttg gcttggcgag atttgggggt gctaataccag gacagcatta cacgccacaa 1712
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 gaaagccctt cggagagctc cccatggctc ctcaccaccg agacagttgg ttttgcattg 1952
 ctgcatgaag gtctacctga aaattcaaca tttgcttttt gcttgtgtac aaaccagat 2012
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 acaaaaaaaaa aaaaa 2087

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 <212> PRT
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 20 25 30
 Leu Val Lys Asn Tyr Asn Pro Leu Glu Arg Pro Val Ala Asn Asp Ser
 35 40 45
 Gln Pro Leu Thr Val Tyr Phe Ser Leu Ser Leu Leu Gln Ile Met Asp
 50 55 60
 Val Asp Glu Lys Asn Gln Val Leu Thr Thr Asn Ile Trp Leu Gln Met
 65 70 75 80
 Ser Trp Thr Asp His Tyr Leu Gln Trp Asn Val Ser Glu Tyr Pro Gly
 85 90 95
 Val Lys Thr Val Arg Phe Pro Asp Gly Gln Ile Trp Lys Pro Asp Ile
 100 105 110
 Leu Leu Tyr Asn Ser Ala Asp Glu Arg Phe Asp Ala Thr Phe His Thr
 115 120 125
 Asn Val Leu Val Asn Ser Ser Gly His Cys Gln Tyr Leu Pro Pro Gly
 130 135 140
 Ile Phe Lys Ser Ser Cys Tyr Ile Asp Val Arg Trp Phe Pro Phe Asp
 145 150 155 160
 Val Gln His Cys Lys Leu Lys Phe Gly Ser Trp Ser Tyr Gly Gly Trp
 165 170 175
 Ser Leu Asp Leu Gln Met Gln Glu Ala Asp Ile Ser Gly Tyr Ile Pro
 180 185 190
 Asn Gly Glu Trp Asp Leu Val Gly Ile Pro Gly Lys Arg Ser Glu Arg
 195 200 205
 Phe Tyr Glu Cys Cys Lys Glu Pro Tyr Pro Asp Val Thr Phe Thr Val

210	215	220
Thr Met Arg Arg Arg	Thr Leu Tyr Tyr Gly	Leu Asn Leu Leu Ile Pro
225	230	235
Cys Val Leu Ile Ser	Ala Leu Ala Leu Leu	Val Phe Leu Leu Pro Ala
245	250	255
Asp Ser Gly Glu Lys	Ile Ser Leu Gly Ile	Thr Val Leu Leu Ser Leu
260	265	270
Thr Val Phe Met Leu	Leu Val Ala Glu Ile	Met Pro Ala Thr Ser Asp
275	280	285
Ser Val Pro Leu Ile	Ala Gln Tyr Phe Ala	Ser Thr Met Ile Ile Val
290	295	300
Gly Leu Ser Val Val	Val Thr Val Ile Val	Leu Gln Tyr His His His
305	310	315
Asp Pro Asp Gly Gly	Lys Met Pro Lys Trp	Thr Arg Val Ile Leu Leu
325	330	335
Asn Trp Cys Ala Trp	Phe Leu Arg Met Lys	Arg Pro Gly Glu Asp Lys
340	345	350
Val Arg Pro Ala Cys	Gln His Lys Gln Arg	Arg Cys Ser Leu Ala Ser
355	360	365
Val Glu Met Ser Ala	Val Gly Pro Pro Pro	Ala Ser Asn Gly Asn Leu
370	375	380
Leu Tyr Ile Gly Phe	Arg Gly Leu Asp Gly	Val His Cys Val Pro Thr
385	390	395
Pro Asp Ser Gly Val	Val Cys Gly Arg Met	Ala Cys Ser Pro Thr His
405	410	415
Asp Glu His Leu Leu	His Gly Gly Gln Pro	Pro Glu Gly Asp Pro Asp
420	425	430
Leu Ala Lys Ile Leu	Glu Glu Val Arg Tyr	Ile Ala Asn Arg Phe Arg
435	440	445
Cys Gln Asp Glu Ser	Glu Ala Val Cys Ser	Glu Trp Lys Phe Ala Ala
450	455	460
Cys Val Val Asp Arg	Leu Cys Leu Met Ala	Phe Ser Val Phe Thr Ile
465	470	475
Ile Cys Thr Ile Gly	Ile Leu Met Ser Ala	Pro Asn Phe Val Glu Ala
485	490	495
Val Ser Lys Asp Phe	Ala	
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 gccttcttgc atcgcgttcc cgcctcctc gggtccttct gtcctttccg ctgtccccac 240
 cgccgcc atg gcc acc ttg ctc cgc agc aag ctg tcc aac gtg gcc acg 289
 Met Ala Thr Leu Leu Arg Ser Lys Leu Ser Asn Val Ala Thr
 1 5 10
 tcc gtg tcc aac aag tcc cag gcc aag atg agc ggc atg ttc gcc agg 337
 Ser Val Ser Asn Lys Ser Gln Ala Lys Met Ser Gly Met Phe Ala Arg
 15 20 25 30

atg ggt ttt cag gcg gcc acg gat gag gag gcg gtg ggc ttc gcg cat	385
Met Gly Phe Gln Ala Ala Thr Asp Glu Glu Ala Val Gly Phe Ala His	
35 40 45	
tgc gac gac ctc gac ttt gag cac cgc cag ggc ctg cag atg gac atc	433
Cys Asp Asp Leu Asp Phe Glu His Arg Gln Gly Leu Gln Met Asp Ile	
50 55 60	
ctg aaa gcc gag gga gag ccc tgc ggg gac gag ggc gct gaa gcg ccc	481
Leu Lys Ala Glu Gly Glu Pro Cys Gly Asp Glu Gly Ala Glu Ala Pro	
65 70 75	
gtc gag gga gac atc cat tat cag cga ggc agc gga gct cct ctg ccg	529
Val Glu Gly Asp Ile His Tyr Gln Arg Gly Ser Gly Ala Pro Leu Pro	
80 85 90	
ccc tcc ggc tcc aag gac cag gtg gga ggt ggt ggc gaa ttc ggg ggc	577
Pro Ser Gly Ser Lys Asp Gln Val Gly Gly Gly Gly Glu Phe Gly Gly	
95 100 105 110	
cac gac aag ccc aaa atc acg gcg tgg gag gca ggc tgg aac gtg acc	625
His Asp Lys Pro Lys Ile Thr Ala Trp Glu Ala Gly Trp Asn Val Thr	
115 120 125	
aac gcc atc cag ggc atg ttc gtg ctg ggc cta ccc tac gcc atc ctg	673
Asn Ala Ile Gln Gly Met Phe Val Leu Gly Leu Pro Tyr Ala Ile Leu	
130 135 140	
cac ggc ggc tac ctg ggg ttg ttt ctc atc atc ttc gcc gcc gtt gtg	721
His Gly Gly Tyr Leu Gly Leu Phe Leu Ile Ile Phe Ala Ala Val Val	
145 150 155	
tgc tgc tac acc ggc aag atc ctc atc gcg tgc ctg tac gag gag aat	769
Cys Cys Tyr Thr Gly Lys Ile Leu Ile Ala Cys Leu Tyr Glu Glu Asn	
160 165 170	
gaa gac ggc gag gtg gtg cgc gtg cgg gac tcg tac gtg gcc ata gcc	817
Glu Asp Gly Glu Val Val Arg Val Arg Asp Ser Tyr Val Ala Ile Ala	
175 180 185 190	
aac gcc tgc tgc gcc ccg cgc ttc cca acg ctg ggc ggc cga gtg gtg	865
Asn Ala Cys Cys Ala Pro Arg Phe Pro Thr Leu Gly Gly Arg Val Val	
195 200 205	
aac gta gcg cag atc atc gag ctg gtg atg acg tgc atc ctg tac gtg	913
Asn Val Ala Gln Ile Ile Glu Leu Val Met Thr Cys Ile Leu Tyr Val	
210 215 220	
gtg gtg agt ggc aac ctc atg tac aac agc ttc ccg ggg ctg ccc gtg	961
Val Val Ser Gly Asn Leu Met Tyr Asn Ser Phe Pro Gly Leu Pro Val	
225 230 235	
tcg cag aag tcc tgg tcc att atc gcc acg gcc gtg ctg ctg cct tgc	1009
Ser Gln Lys Ser Trp Ser Ile Ile Ala Thr Ala Val Leu Leu Pro Cys	
240 245 250	
gcc ttc ctt aag aac ctc aag gcc gtg tcc aag ttc agt ctg ctg tgc	1057
Ala Phe Leu Lys Asn Leu Lys Ala Val Ser Lys Phe Ser Leu Leu Cys	
255 260 265 270	
act ctg gcc cac ttc gtc atc aat atc ctg gtc ata gcc tac tgt cta	1105

Thr	Leu	Ala	His	Phe	Val	Ile	Asn	Ile	Leu	Val	Ile	Ala	Tyr	Cys	Leu	
				275					280					285		
tcg	cgg	gcg	cgc	gac	tgg	gcc	tgg	gag	aag	gtc	aag	ttc	tac	atc	gac	1153
Ser	Arg	Ala	Arg	Asp	Trp	Ala	Trp	Glu	Lys	Val	Lys	Phe	Tyr	Ile	Asp	
			290					295					300			
gtc	aag	aag	ttc	ccc	atc	tcc	att	ggc	atc	atc	gtg	ttc	agc	tac	acg	1201
Val	Lys	Lys	Phe	Pro	Ile	Ser	Ile	Gly	Ile	Ile	Val	Phe	Ser	Tyr	Thr	
		305					310					315				
tct	cag	atc	ttc	ctg	cct	tcg	ctg	gag	ggc	aat	atg	cag	cag	ccc	agc	1249
Ser	Gln	Ile	Phe	Leu	Pro	Ser	Leu	Glu	Gly	Asn	Met	Gln	Gln	Pro	Ser	
	320					325					330					
gag	ttc	cac	tgc	atg	atg	aac	tgg	acg	cac	atc	gca	gcc	tgc	gtg	ctc	1297
Glu	Phe	His	Cys	Met	Met	Asn	Trp	Thr	His	Ile	Ala	Ala	Cys	Val	Leu	
335					340					345					350	
aag	ggc	ctc	ttc	gcg	ctc	gtc	gcc	tac	ctc	acc	tgg	gcc	gac	gag	acc	1345
Lys	Gly	Leu	Phe	Ala	Leu	Val	Ala	Tyr	Leu	Thr	Trp	Ala	Asp	Glu	Thr	
				355					360					365		
aag	gag	gtc	atc	acg	gat	aac	ctg	ccc	ggc	tcc	atc	cgc	gcc	gtg	gtc	1393
Lys	Glu	Val	Ile	Thr	Asp	Asn	Leu	Pro	Gly	Ser	Ile	Arg	Ala	Val	Val	
			370					375					380			
aac	atc	ttt	ctg	gtg	gcc	aag	gcg	ctg	ttg	tcc	tat	cct	ctg	cca	ttc	1441
Asn	Ile	Phe	Leu	Val	Ala	Lys	Ala	Leu	Leu	Ser	Tyr	Pro	Leu	Pro	Phe	
		385					390					395				
ttt	gcc	gct	gtc	gag	gtg	ctg	gag	aag	tcg	ctc	ttc	cag	gaa	ggc	agc	1489
Phe	Ala	Ala	Val	Glu	Val	Leu	Glu	Lys	Ser	Leu	Phe	Gln	Glu	Gly	Ser	
	400					405					410					
cgc	gcc	ttt	ttc	ccg	gcc	tgc	tac	agc	ggc	gac	ggg	cgc	ctg	aag	tcc	1537
Arg	Ala	Phe	Phe	Pro	Ala	Cys	Tyr	Ser	Gly	Asp	Gly	Arg	Leu	Lys	Ser	
415					420					425					430	
tgg	ggg	ctg	acg	ctg	cgc	tgc	gcg	ctc	gtc	gtc	ttc	acg	ctg	ctc	atg	1585
Trp	Gly	Leu	Thr	Leu	Arg	Cys	Ala	Leu	Val	Val	Phe	Thr	Leu	Leu	Met	
				435					440					445		
gcc	att	tat	gtg	ccg	cac	ttc	gcg	ctg	ctc	atg	ggc	ctc	acc	ggc	agc	1633
Ala	Ile	Tyr	Val	Pro	His	Phe	Ala	Leu	Leu	Met	Gly	Leu	Thr	Gly	Ser	
			450					455					460			
ctc	acg	ggc	gcc	ggc	ctc	tgt	ttc	ttg	ctg	ccc	agc	ctc	ttt	cac	ctg	1681
Leu	Thr	Gly	Ala	Gly	Leu	Cys	Phe	Leu	Leu	Pro	Ser	Leu	Phe	His	Leu	
		465					470					475				
cgc	ctg	ctc	tgg	cgc	aag	ctg	ctg	tgg	cac	caa	gtc	ttc	ttc	gac	gtc	1729
Arg	Leu	Leu	Trp	Arg	Lys	Leu	Leu	Trp	His	Gln	Val	Phe	Phe	Asp	Val	
	480					485					490					
gcc	atc	ttc	gtc	atc	ggc	ggc	atc	tgc	agc	gtg	tcc	ggc	ttc	gtg	cac	1777
Ala	Ile	Phe	Val	Ile	Gly	Gly	Ile	Cys	Ser	Val	Ser	Gly	Phe	Val	His	
495					500					505					510	
tcc	ctc	gag	ggc	ctc	atc	gaa	gcc	tac	cga	acc	aac	gcg	gag	gac	tag	1825
Ser	Leu	Glu	Gly	Leu	Ile	Glu	Ala	Tyr	Arg	Thr	Asn	Ala	Glu	Asp	*	

515

520

525

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cccaccagcc cagtgcgccc tgccgcccgc cttggggaggc caagctttaa acatctctgg 1945
ttcctagttt ctgattattc ggggatgggg gggatgggag gggacagggg ttcacgatcc 2005
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tgaccttggg ggaatatttc acatccatcc agagctcgga atctacagcg tccagccatt 2245
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<210> 10

<211> 525

<212> PRT

<213> Homo sapiens

<400> 10

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Phe Gln Ala Ala Thr Asp Glu Glu Ala Val Gly Phe Ala His Cys Asp
35     40     45
Asp Leu Asp Phe Glu His Arg Gln Gly Leu Gln Met Asp Ile Leu Lys
50     55     60
Ala Glu Gly Glu Pro Cys Gly Asp Glu Gly Ala Glu Ala Pro Val Glu
65     70     75     80
Gly Asp Ile His Tyr Gln Arg Gly Ser Gly Ala Pro Leu Pro Pro Ser
85     90     95
Gly Ser Lys Asp Gln Val Gly Gly Gly Gly Glu Phe Gly Gly His Asp
100    105    110
Lys Pro Lys Ile Thr Ala Trp Glu Ala Gly Trp Asn Val Thr Asn Ala
115    120    125
Ile Gln Gly Met Phe Val Leu Gly Leu Pro Tyr Ala Ile Leu His Gly
130    135    140
Gly Tyr Leu Gly Leu Phe Leu Ile Ile Phe Ala Ala Val Val Cys Cys
145    150    155    160
Tyr Thr Gly Lys Ile Leu Ile Ala Cys Leu Tyr Glu Glu Asn Glu Asp
165    170    175
Gly Glu Val Val Arg Val Arg Asp Ser Tyr Val Ala Ile Ala Asn Ala
180    185    190
Cys Cys Ala Pro Arg Phe Pro Thr Leu Gly Gly Arg Val Val Asn Val
195    200    205
Ala Gln Ile Ile Glu Leu Val Met Thr Cys Ile Leu Tyr Val Val Val
210    215    220
Ser Gly Asn Leu Met Tyr Asn Ser Phe Pro Gly Leu Pro Val Ser Gln
225    230    235    240
Lys Ser Trp Ser Ile Ile Ala Thr Ala Val Leu Leu Pro Cys Ala Phe
245    250    255
Leu Lys Asn Leu Lys Ala Val Ser Lys Phe Ser Leu Leu Cys Thr Leu
260    265    270
Ala His Phe Val Ile Asn Ile Leu Val Ile Ala Tyr Cys Leu Ser Arg
275    280    285
Ala Arg Asp Trp Ala Trp Glu Lys Val Lys Phe Tyr Ile Asp Val Lys
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Lys Phe Pro Ile Ser Ile Gly Ile Ile Val Phe Ser Tyr Thr Ser Gln

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Ile	Phe	Leu	Pro	Ser	Leu	Glu	Gly	Asn	Met	Gln	Gln	Pro	Ser	Glu
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His	Cys	Met	Met	Asn	Trp	Thr	His	Ile	Ala	Ala	Cys	Val	Leu	Lys
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Leu	Phe	Ala	Leu	Val	Ala	Tyr	Leu	Thr	Trp	Ala	Asp	Glu	Thr	Lys
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Val	Ile	Thr	Asp	Asn	Leu	Pro	Gly	Ser	Ile	Arg	Ala	Val	Val	Asn
	370					375				380				
Phe	Leu	Val	Ala	Lys	Ala	Leu	Leu	Ser	Tyr	Pro	Leu	Pro	Phe	Phe
385					390					395				400
Ala	Val	Glu	Val	Leu	Glu	Lys	Ser	Leu	Phe	Gln	Glu	Gly	Ser	Arg
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Phe	Phe	Pro	Ala	Cys	Tyr	Ser	Gly	Asp	Gly	Arg	Leu	Lys	Ser	Trp
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Leu	Thr	Leu	Arg	Cys	Ala	Leu	Val	Val	Phe	Thr	Leu	Leu	Met	Ala
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Tyr	Val	Pro	His	Phe	Ala	Leu	Leu	Met	Gly	Leu	Thr	Gly	Ser	Leu
	450					455				460				
Gly	Ala	Gly	Leu	Cys	Phe	Leu	Leu	Pro	Ser	Leu	Phe	His	Leu	Arg
465					470					475				480
Leu	Trp	Arg	Lys	Leu	Leu	Trp	His	Gln	Val	Phe	Phe	Asp	Val	Ala
			485					490						495
Phe	Val	Ile	Gly	Gly	Ile	Cys	Ser	Val	Ser	Gly	Phe	Val	His	Ser
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 <213> Homo sapiens

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cct gag cct gct ggc cac acc gtt ctg tgg atc ttc tca ttg cta gtc	96
Pro Glu Pro Ala Gly His Thr Val Leu Trp Ile Phe Ser Leu Leu Val	
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cac gga gtc acc ttt gtc ttc ggg gtc ctg ggc aat ggg ctt gtg atc	144
His Gly Val Thr Phe Val Phe Gly Val Leu Gly Asn Gly Leu Val Ile	
35 40 45	
tgg gtg gct gga ttc cgg atg aca cgc aca gtc aac acc atc tgt tac	192
Trp Val Ala Gly Phe Arg Met Thr Arg Thr Val Asn Thr Ile Cys Tyr	
50 55 60	
ctg aac ctg gcc cta gct gac ttc tct ttc agt gcc atc cta cca ttc	240
Leu Asn Leu Ala Leu Ala Asp Phe Ser Phe Ser Ala Ile Leu Pro Phe	
65 70 75 80	
cga atg gtc tca gtc gcc atg aga gaa aaa tgg cct ttt gcg tca ttc	288
Arg Met Val Ser Val Ala Met Arg Glu Lys Trp Pro Phe Ala Ser Phe	

85										90					95					
cta	tgt	aag	tta	gtt	cat	gtt	atg	ata	gac	atc	aac	ctg	ttt	gtc	agt	336				
Leu	Cys	Lys	Leu	Val	His	Val	Met	Ile	Asp	Ile	Asn	Leu	Phe	Val	Ser					
			100					105					110							
gtc	tac	ctg	atc	acc	atc	att	gct	ctg	gac	cgc	tgt	att	tgt	gtc	ctg	384				
Val	Tyr	Leu	Ile	Thr	Ile	Ile	Ala	Leu	Asp	Arg	Cys	Ile	Cys	Val	Leu					
		115					120					125								
cat	cca	gcc	tggt	gcc	cag	aac	cat	cgc	acc	atg	agt	ctg	gcc	aag	agg	432				
His	Pro	Ala	Trp	Ala	Gln	Asn	His	Arg	Thr	Met	Ser	Leu	Ala	Lys	Arg					
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gtg	atg	acg	gga	ctc	tgg	att	ttc	acc	ata	gtc	ctt	acc	tta	cca	aat	480				
Val	Met	Thr	Gly	Leu	Trp	Ile	Phe	Thr	Ile	Val	Leu	Thr	Leu	Pro	Asn					
					150					155					160					
ttc	atc	ttc	tgg	act	aca	ata	agt	act	acg	aat	ggg	gac	aca	tac	tgt	528				
Phe	Ile	Phe	Trp	Thr	Thr	Ile	Ser	Thr	Thr	Asn	Gly	Asp	Thr	Tyr	Cys					
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att	ttc	aac	ttt	gca	ttc	tgg	ggt	gac	act	gct	gta	gag	agg	ttg	aac	576				
Ile	Phe	Asn	Phe	Ala	Phe	Trp	Gly	Asp	Thr	Ala	Val	Glu	Arg	Leu	Asn					
			180					185					190							
gtg	ttc	att	acc	atg	gcc	aag	gtc	ttt	ctg	atc	ctc	cac	ttc	att	att	624				
Val	Phe	Ile	Thr	Met	Ala	Lys	Val	Phe	Leu	Ile	Leu	His	Phe	Ile	Ile					
		195					200					205								
ggc	ttc	acg	gtg	cct	atg	tcc	atc	atc	aca	gtc	tgc	tat	ggg	atc	atc	672				
Gly	Phe	Thr	Val	Pro	Met	Ser	Ile	Ile	Thr	Val	Cys	Tyr	Gly	Ile	Ile					
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gct	gcc	aaa	att	cac	aga	aac	cac	atg	att	aaa	tcc	agc	cgt	ccc	tta	720				
Ala	Ala	Lys	Ile	His	Arg	Asn	His	Met	Ile	Lys	Ser	Ser	Arg	Pro	Leu					
		225			230					235					240					
cgt	gtc	ttc	gct	gct	gtg	gtg	gct	tct	ttc	ttc	atc	tgt	tgg	ttc	cct	768				
Arg	Val	Phe	Ala	Ala	Val	Val	Ala	Ser	Phe	Phe	Ile	Cys	Trp	Phe	Pro					
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tat	gaa	cta	att	ggc	att	cta	atg	gca	gtc	tgg	ctc	aaa	gag	atg	ttg	816				
Tyr	Glu	Leu	Ile	Gly	Ile	Leu	Met	Ala	Val	Trp	Leu	Lys	Glu	Met	Leu					
			260					265					270							
tta	aat	ggc	aaa	tac	aaa	atc	att	ctt	gtc	ctg	att	aac	cca	aca	agc	864				
Leu	Asn	Gly	Lys	Tyr	Lys	Ile	Ile	Leu	Val	Leu	Ile	Asn	Pro	Thr	Ser					
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tcc	ttg	gcc	ttt	ttt	aac	agc	tgc	ctc	aac	cca	att	ctc	tac	gtc	ttt	912				
Ser	Leu	Ala	Phe	Phe	Asn	Ser	Cys	Leu	Asn	Pro	Ile	Leu	Tyr	Val	Phe					
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Met	Gly	Arg	Asn	Phe	Gln	Glu	Arg	Leu	Ile	Arg	Ser	Leu	Pro	Thr	Ser					
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ttg	gag	agg	gcc	ctg	act	gag	gtc	cct	gac	tca	gcc	cag	acc	agc	aac	1008				
Leu	Glu	Arg	Ala	Leu	Thr	Glu	Val	Pro	Asp	Ser	Ala	Gln	Thr	Ser	Asn					
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atg tga 1062
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 <212> PRT
 <213> Homo sapiens

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 35 40 45
 Trp Val Ala Gly Phe Arg Met Thr Arg Thr Val Asn Thr Ile Cys Tyr
 50 55 60
 Leu Asn Leu Ala Leu Ala Asp Phe Ser Phe Ser Ala Ile Leu Pro Phe
 65 70 75 80
 Arg Met Val Ser Val Ala Met Arg Glu Lys Trp Pro Phe Ala Ser Phe
 85 90 95
 Leu Cys Lys Leu Val His Val Met Ile Asp Ile Asn Leu Phe Val Ser
 100 105 110
 Val Tyr Leu Ile Thr Ile Ile Ala Leu Asp Arg Cys Ile Cys Val Leu
 115 120 125
 His Pro Ala Trp Ala Gln Asn His Arg Thr Met Ser Leu Ala Lys Arg
 130 135 140
 Val Met Thr Gly Leu Trp Ile Phe Thr Ile Val Leu Thr Leu Pro Asn
 145 150 155 160
 Phe Ile Phe Trp Thr Thr Ile Ser Thr Thr Asn Gly Asp Thr Tyr Cys
 165 170 175
 Ile Phe Asn Phe Ala Phe Trp Gly Asp Thr Ala Val Glu Arg Leu Asn
 180 185 190
 Val Phe Ile Thr Met Ala Lys Val Phe Leu Ile Leu His Phe Ile Ile
 195 200 205
 Gly Phe Thr Val Pro Met Ser Ile Ile Thr Val Cys Tyr Gly Ile Ile
 210 215 220
 Ala Ala Lys Ile His Arg Asn His Met Ile Lys Ser Ser Arg Pro Leu
 225 230 235 240
 Arg Val Phe Ala Ala Val Val Ala Ser Phe Phe Ile Cys Trp Phe Pro
 245 250 255
 Tyr Glu Leu Ile Gly Ile Leu Met Ala Val Trp Leu Lys Glu Met Leu
 260 265 270
 Leu Asn Gly Lys Tyr Lys Ile Ile Leu Val Leu Ile Asn Pro Thr Ser
 275 280 285
 Ser Leu Ala Phe Phe Asn Ser Cys Leu Asn Pro Ile Leu Tyr Val Phe
 290 295 300
 Met Gly Arg Asn Phe Gln Glu Arg Leu Ile Arg Ser Leu Pro Thr Ser
 305 310 315 320
 Leu Glu Arg Ala Leu Thr Glu Val Pro Asp Ser Ala Gln Thr Ser Asn
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 Thr His Thr Thr Ser Ala Ser Pro Pro Glu Glu Thr Glu Leu Gln Ala
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 Met

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 Phe Ala Asn Phe Arg Arg Ile Leu Arg Leu Ser Thr Phe Glu Lys Arg
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aag tcc cgc gaa tat gag cac gtc cgc cgc gac ctg gac ccc aac gag 152
 Lys Ser Arg Glu Tyr Glu His Val Arg Arg Asp Leu Asp Pro Asn Glu
 20 25 30

gtg tgg gag atc gtg ggc gag ctg ggc gac ggc gcc ttc ggc aag gtt 200
 Val Trp Glu Ile Val Gly Glu Leu Gly Asp Gly Ala Phe Gly Lys Val
 35 40 45 50

tac aag gcc aag aat aag gag acg ggt gct ttg gct gcg gcc aaa gtc 248
 Tyr Lys Ala Lys Asn Lys Glu Thr Gly Ala Leu Ala Ala Ala Lys Val
 55 60 65

att gaa acc aag agt gag gag gag ctg gag gac tac atc gtg gag att 296
 Ile Glu Thr Lys Ser Glu Glu Glu Leu Glu Asp Tyr Ile Val Glu Ile
 70 75 80

gag atc ctg gcc acc tgc gac cac ccc tac att gtg aag ctc ctg gga 344
 Glu Ile Leu Ala Thr Cys Asp His Pro Tyr Ile Val Lys Leu Leu Gly
 85 90 95

gcc tac tat cac gac ggg aag ctg tgg atc atg att gag ttc tgt cca 392
 Ala Tyr Tyr His Asp Gly Lys Leu Trp Ile Met Ile Glu Phe Cys Pro
 100 105 110

ggg gga gcc gtg gac gcc atc atg ctg gag ctg gac aga ggc ctc acg 440
 Gly Gly Ala Val Asp Ala Ile Met Leu Glu Leu Asp Arg Gly Leu Thr
 115 120 125 130

gag ccc cag ata cag gtg gtt tgc cgc cag atg cta gaa gcc ctc aac 488
 Glu Pro Gln Ile Gln Val Val Cys Arg Gln Met Leu Glu Ala Leu Asn
 135 140 145

ttc ctg cac agc aag agg atc atc cac cga gat ctg aaa gct ggc aac 536
 Phe Leu His Ser Lys Arg Ile Ile His Arg Asp Leu Lys Ala Gly Asn
 150 155 160

gtg ctg atg acc ctc gag gga gac atc agg ctg gct gac ttt ggt gtg 584
 Val Leu Met Thr Leu Glu Gly Asp Ile Arg Leu Ala Asp Phe Gly Val
 165 170 175

tct gcc aag aat ctg aag act cta cag aaa cga gat tcc ttc atc ggc	632
Ser Ala Lys Asn Leu Lys Thr Leu Gln Lys Arg Asp Ser Phe Ile Gly	
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Thr Pro Tyr Trp Met Ala Pro Glu Val Val Met Cys Glu Thr Met Lys	
195 200 205 210	
gac acg ccc tac gac tac aaa gcc gac atc tgg tcc ctg ggc atc acg	728
Asp Thr Pro Tyr Asp Tyr Lys Ala Asp Ile Trp Ser Leu Gly Ile Thr	
215 220 225	
ctg att gag atg gcc cag atc gag ccg cca cac cac gag ctc aac ccc	776
Leu Ile Glu Met Ala Gln Ile Glu Pro Pro His His Glu Leu Asn Pro	
230 235 240	
atg cgg gtc ctg cta aag atc gcc aag tca gac cct ccc acg ctg ctc	824
Met Arg Val Leu Leu Lys Ile Ala Lys Ser Asp Pro Pro Thr Leu Leu	
245 250 255	
acg ccc tcc aag tgg tct gta gag ttc cgt gac ttc ctg aag ata gcc	872
Thr Pro Ser Lys Trp Ser Val Glu Phe Arg Asp Phe Leu Lys Ile Ala	
260 265 270	
ctg gat aag aac cca gaa acc cga ccc agt gcc gcg cag ctg ctg gag	920
Leu Asp Lys Asn Pro Glu Thr Arg Pro Ser Ala Ala Gln Leu Leu Glu	
275 280 285 290	
cat ccc ttc gtc agc agc atc acc agt aac aag gct ctg cgg gag ctg	968
His Pro Phe Val Ser Ser Ile Thr Ser Asn Lys Ala Leu Arg Glu Leu	
295 300 305	
gtg gct gag gcc aag gcc gag gtg atg gaa gag atc gaa gac ggc cgg	1016
Val Ala Glu Ala Lys Ala Glu Val Met Glu Glu Ile Glu Asp Gly Arg	
310 315 320	
gat gag ggg gaa gag gag gac gcc gtg gat gcc gcc tcc acc ctg gag	1064
Asp Glu Gly Glu Glu Glu Asp Ala Val Asp Ala Ala Ser Thr Leu Glu	
325 330 335	
aac cat act cag aac tcc tct gag gtg agt ccg cca agc ctc aat gct	1112
Asn His Thr Gln Asn Ser Ser Glu Val Ser Pro Pro Ser Leu Asn Ala	
340 345 350	
gac aag cct ctc gag gag tca cct tcc acc ccg ctg gca ccc agc cag	1160
Asp Lys Pro Leu Glu Glu Ser Pro Ser Thr Pro Leu Ala Pro Ser Gln	
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Ser Gln Asp Ser Val Asn Glu Pro Cys Ser Gln Pro Ser Gly Asp Arg	
375 380 385	
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Ser Leu Gln Thr Thr Ser Pro Pro Val Val Ala Pro Gly Asn Glu Asn	
390 395 400	
ggc ctg gca gtg cct gtg ccc ctg cgg aag tcc cga ccc gtg tca atg	1304
Gly Leu Ala Val Pro Val Pro Leu Arg Lys Ser Arg Pro Val Ser Met	
405 410 415	
gat gcc aga att cag gta gcc cag gag aag caa gtt gct gag cag ggt	1352

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Gly	Asp	Leu	Ser	Pro	Ala	Ala	Asn	Arg	Ser	Gln	Lys	Ala	Ser	Gln	Ser		
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cgg	ccc	aac	agc	agc	gcc	ctg	gag	acc	ttg	ggg	ggg	gag	aag	ctg	gcc	1448	
Arg	Pro	Asn	Ser	Ser	Ala	Leu	Glu	Thr	Leu	Gly	Gly	Glu	Lys	Leu	Ala		
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Asn	Gly	Ser	Leu	Glu	Pro	Pro	Ala	Gln	Ala	Ala	Pro	Gly	Pro	Ser	Lys		
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Arg	Asp	Ser	Asp	Cys	Ser	Ser	Leu	Cys	Thr	Ser	Glu	Ser	Met	Asp	Tyr		
		485					490					495					
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Gly	Thr	Asn	Leu	Ser	Thr	Asp	Leu	Ser	Leu	Asn	Lys	Glu	Met	Gly	Ser		
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Arg	Lys	Phe	Val	Val	Asp	Gly	Val	Glu	Val	Ser	Ile	Thr	Thr	Ser	Lys		
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Ile	Ile	Ser	Glu	Asp	Glu	Lys	Lys	Asp	Glu	Glu	Met	Arg	Phe	Leu	Arg		
			550					555					560				
cgc	cag	gaa	ctc	cga	gag	ctt	cgg	ctg	ctc	cag	aaa	gaa	gag	cat	cgg	1784	
Arg	Gln	Glu	Leu	Arg	Glu	Leu	Arg	Leu	Leu	Gln	Lys	Glu	Glu	His	Arg		
		565					570					575					
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Asn	Gln	Thr	Gln	Leu	Ser	Asn	Lys	His	Glu	Leu	Gln	Leu	Glu	Gln	Met		
580						585					590						
cat	aaa	cgt	ttt	gaa	cag	gaa	atc	aac	gcc	aag	aag	aag	ttc	ttt	gac	1880	
His	Lys	Arg	Phe	Glu	Gln	Glu	Ile	Asn	Ala	Lys	Lys	Lys	Phe	Phe	Asp		
595					600				605						610		
acg	gaa	tta	gag	aac	ctg	gag	cgt	cag	caa	aag	cag	caa	gtg	gag	aag	1928	
Thr	Glu	Leu	Glu	Asn	Leu	Glu	Arg	Gln	Gln	Lys	Gln	Gln	Val	Glu	Lys		
				615				620						625			
atg	gag	caa	gac	cat	gcc	gtg	cgc	cgc	cgg	gag	gag	gcc	agg	cgg	atc	1976	
Met	Glu	Gln	Asp	His	Ala	Val	Arg	Arg	Arg	Glu	Glu	Ala	Arg	Arg	Ile		
			630					635					640				
cgc	ctg	gag	cag	gat	cgg	gac	tac	acc	agg	ttc	caa	gag	cag	ctc	aaa	2024	
Arg	Leu	Glu	Gln	Asp	Arg	Asp	Tyr	Thr	Arg	Phe	Gln	Glu	Gln	Leu	Lys		
			645				650					655					
ctg	atg	aag	aaa	gag	gtg	aag	aac	gag	gtg	gag	aag	ctc	ccc	cga	cag	2072	
Leu	Met	Lys	Lys	Glu	Val	Lys	Asn	Glu	Val	Glu	Lys	Leu	Pro	Arg	Gln		

660	665	670	
cag cgg aag gaa agc atg aag cag aag atg gag gag cac acg cag aaa Gln Arg Lys Glu Ser Met Lys Gln Lys Met Glu Glu His Thr Gln Lys 675 680 685 690			2120
aag cag ctt ctt gac cgg gac ttt gta gcc aag cag aag gag gac ctg Lys Gln Leu Leu Asp Arg Asp Phe Val Ala Lys Gln Lys Glu Asp Leu 695 700 705			2168
gag ctg gcc atg aag agg ctc acc acc gac aac agg cgg gag atc tgt Glu Leu Ala Met Lys Arg Leu Thr Thr Asp Asn Arg Arg Glu Ile Cys 710 715 720			2216
gac aag gag cgc gag tgc ctc atg aag aag cag gag ctc ctt cga gac Asp Lys Glu Arg Glu Cys Leu Met Lys Lys Gln Glu Leu Leu Arg Asp 725 730 735			2264
cgg gaa gca gcc ctg tgg gag atg gaa gag cac cag ctg cag gag agg Arg Glu Ala Ala Leu Trp Glu Met Glu Glu His Gln Leu Gln Glu Arg 740 745 750			2312
cac cag ctg gtg aag cag cag ctc aaa gac cag tac ttc ctc cag cgg His Gln Leu Val Lys Gln Gln Leu Lys Asp Gln Tyr Phe Leu Gln Arg 755 760 765 770			2360
cac gag ctg ctg cgc aag cat gag aag gag cgg gag cag atg cag cgc His Glu Leu Leu Arg Lys His Glu Lys Glu Arg Glu Gln Met Gln Arg 775 780 785			2408
tac aac cag cgc atg ata gag cag ctg aag gtg cgg cag caa cag gaa Tyr Asn Gln Arg Met Ile Glu Gln Leu Lys Val Arg Gln Gln Gln Glu 790 795 800			2456
aag gcg cgg ctg ccc aag atc cag agg agt gag ggc aag acg cgc atg Lys Ala Arg Leu Pro Lys Ile Gln Arg Ser Glu Gly Lys Thr Arg Met 805 810 815			2504
gcc atg tac aag aag agc ctc cac atc aac ggc ggg ggc agc gca gct Ala Met Tyr Lys Lys Ser Leu His Ile Asn Gly Gly Gly Ser Ala Ala 820 825 830			2552
gag cag cgt gag aag atc aag cag ttc tcc cag cag gag gag aag agg Glu Gln Arg Glu Lys Ile Lys Gln Phe Ser Gln Gln Glu Glu Lys Arg 835 840 845 850			2600
cag aag tcg gag cgg ctg cag caa cag cag aaa cac gag aac cag atg Gln Lys Ser Glu Arg Leu Gln Gln Gln Gln Lys His Glu Asn Gln Met 855 860 865			2648
cgg gac atg ctg gcg cag tgt gag agc aac atg agc gag ctg cag cag Arg Asp Met Leu Ala Gln Cys Glu Ser Asn Met Ser Glu Leu Gln Gln 870 875 880			2696
ctg cag aat gaa aag tgc cac ctc ctg gta gag cac gaa acc cag aaa Leu Gln Asn Glu Lys Cys His Leu Leu Val Glu His Glu Thr Gln Lys 885 890 895			2744
ctg aag gcc ctg gat gag agc cat aac cag aac ctg aag gaa tgg cgg Leu Lys Ala Leu Asp Glu Ser His Asn Gln Asn Leu Lys Glu Trp Arg 900 905 910			2792

gac aag ctt cgg ccg cgc aag aag gct ctg gaa gag gat ctg aac cag 2840
 Asp Lys Leu Arg Pro Arg Lys Lys Ala Leu Glu Glu Asp Leu Asn Gln
 915 920 925 930

aag aag cgg gag cag gag atg ttc ttc aag ctg agc gag gag gcg gag 2888
 Lys Lys Arg Glu Gln Glu Met Phe Phe Lys Leu Ser Glu Glu Ala Glu
 935 940 945

tgc cca aac ccc tcc acc cca agc aag gcc gcc aag ttc ttc ccc tac 2936
 Cys Pro Asn Pro Ser Thr Pro Ser Lys Ala Ala Lys Phe Phe Pro Tyr
 950 955 960

agt tct gcg gat gct tct taa caaccgcccc gggctgtggc tggcagcttg 2987
 Ser Ser Ala Asp Ala Ser *
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 35 40 45
 Lys Val Tyr Lys Ala Lys Asn Lys Glu Thr Gly Ala Leu Ala Ala Ala
 50 55 60
 Lys Val Ile Glu Thr Lys Ser Glu Glu Glu Leu Glu Asp Tyr Ile Val
 65 70 75 80
 Glu Ile Glu Ile Leu Ala Thr Cys Asp His Pro Tyr Ile Val Lys Leu
 85 90 95
 Leu Gly Ala Tyr His Asp Gly Lys Leu Trp Ile Met Ile Glu Phe
 100 105 110
 Cys Pro Gly Gly Ala Val Asp Ala Ile Met Leu Glu Leu Asp Arg Gly
 115 120 125

Leu	Thr	Glu	Pro	Gln	Ile	Gln	Val	Val	Cys	Arg	Gln	Met	Leu	Glu	Ala
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Leu	Asn	Phe	Leu	His	Ser	Lys	Arg	Ile	Ile	His	Arg	Asp	Leu	Lys	Ala
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Gly	Asn	Val	Leu	Met	Thr	Leu	Glu	Gly	Asp	Ile	Arg	Leu	Ala	Asp	Phe
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Gly	Val	Ser	Ala	Lys	Asn	Leu	Lys	Thr	Leu	Gln	Lys	Arg	Asp	Ser	Phe
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Ile	Gly	Thr	Pro	Tyr	Trp	Met	Ala	Pro	Glu	Val	Val	Met	Cys	Glu	Thr
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Met	Lys	Asp	Thr	Pro	Tyr	Asp	Tyr	Lys	Ala	Asp	Ile	Trp	Ser	Leu	Gly
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Ile	Thr	Leu	Ile	Glu	Met	Ala	Gln	Ile	Glu	Pro	Pro	His	His	Glu	Leu
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Asn	Pro	Met	Arg	Val	Leu	Leu	Lys	Ile	Ala	Lys	Ser	Asp	Pro	Pro	Thr
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Leu	Leu	Thr	Pro	Ser	Lys	Trp	Ser	Val	Glu	Phe	Arg	Asp	Phe	Leu	Lys
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Ile	Ala	Leu	Asp	Lys	Asn	Pro	Glu	Thr	Arg	Pro	Ser	Ala	Ala	Gln	Leu
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Leu	Glu	His	Pro	Phe	Val	Ser	Ser	Ile	Thr	Ser	Asn	Lys	Ala	Leu	Arg
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Glu	Leu	Val	Ala	Glu	Ala	Lys	Ala	Glu	Val	Met	Glu	Glu	Ile	Glu	Asp
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Gly	Arg	Asp	Glu	Gly	Glu	Glu	Glu	Asp	Ala	Val	Asp	Ala	Ala	Ser	Thr
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Leu	Glu	Asn	His	Thr	Gln	Asn	Ser	Ser	Glu	Val	Ser	Pro	Pro	Ser	Leu
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Asn	Ala	Asp	Lys	Pro	Leu	Glu	Glu	Ser	Pro	Ser	Thr	Pro	Leu	Ala	Pro
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Ser	Gln	Ser	Gln	Asp	Ser	Val	Asn	Glu	Pro	Cys	Ser	Gln	Pro	Ser	Gly
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Glu	Asn	Gly	Leu	Ala	Val	Pro	Val	Pro	Leu	Arg	Lys	Ser	Arg	Pro	Val
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Ser	Met	Asp	Ala	Arg	Ile	Gln	Val	Ala	Gln	Glu	Lys	Gln	Val	Ala	Glu
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Gln	Gly	Gly	Asp	Leu	Ser	Pro	Ala	Ala	Asn	Arg	Ser	Gln	Lys	Ala	Ser
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Gln	Ser	Arg	Pro	Asn	Ser	Ser	Ala	Leu	Glu	Thr	Leu	Gly	Gly	Glu	Lys
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Leu	Ala	Asn	Gly	Ser	Leu	Glu	Pro	Pro	Ala	Gln	Ala	Ala	Pro	Gly	Pro
465				470						475					480
Ser	Lys	Arg	Asp	Ser	Asp	Cys	Ser	Ser	Leu	Cys	Thr	Ser	Glu	Ser	Met
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Gly	Ser	Leu	Ser	Ile	Lys	Asp	Pro	Lys	Leu	Tyr	Lys	Lys	Thr	Leu	Lys
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Arg	Thr	Arg	Lys	Phe	Val	Val	Asp	Gly	Val	Glu	Val	Ser	Ile	Thr	Thr
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Ser	Lys	Ile	Ile	Ser	Glu	Asp	Glu	Lys	Lys	Asp	Glu	Glu	Met	Arg	Phe
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Leu	Arg	Arg	Gln	Glu	Leu	Arg	Glu	Leu	Arg	Leu	Leu	Gln	Lys	Glu	Glu
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His	Arg	Asn	Gln	Thr	Gln	Leu	Ser	Asn	Lys	His	Glu	Leu	Gln	Leu	Glu
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Gln	Met	His	Lys	Arg	Phe	Glu	Gln	Glu	Ile	Asn	Ala	Lys	Lys	Lys	Phe
	595					600						605			
Phe	Asp	Thr	Glu	Leu	Glu	Asn	Leu	Glu	Arg	Gln	Gln	Lys	Gln	Gln	Val

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Glu Lys Met Glu Gln Asp	His Ala Val Arg Arg	Arg Glu Glu Ala Arg			
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Arg Ile Arg Leu Glu Gln	Asp Arg Asp Tyr Thr	Arg Phe Gln Glu Gln			
	645	650	655		
Leu Lys Leu Met Lys Lys	Glu Val Lys Asn Glu Val	Glu Lys Leu Pro			
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Arg Gln Gln Arg Lys Glu	Ser Met Lys Gln Lys Met	Glu Glu His Thr			
	675	680	685		
Gln Lys Lys Gln Leu Leu	Asp Arg Asp Phe Val Ala	Lys Gln Lys Glu			
	690	695	700		
Asp Leu Glu Leu Ala Met	Lys Arg Leu Thr Thr	Asp Asn Arg Arg Glu			
705	710	715	720		
Ile Cys Asp Lys Glu Arg	Glu Cys Leu Met Lys Lys	Gln Glu Leu Leu			
	725	730	735		
Arg Asp Arg Glu Ala Ala	Leu Trp Glu Met Glu Glu	His Gln Leu Gln			
	740	745	750		
Glu Arg His Gln Leu Val	Lys Gln Gln Leu Lys Asp	Gln Tyr Phe Leu			
	755	760	765		
Gln Arg His Glu Leu Leu	Arg Lys His Glu Lys Glu	Arg Glu Gln Met			
	770	775	780		
Gln Arg Tyr Asn Gln Arg	Met Ile Glu Gln Leu Lys	Val Arg Gln Gln			
785	790	795	800		
Gln Glu Lys Ala Arg Leu	Pro Lys Ile Gln Arg Ser	Glu Gly Lys Thr			
	805	810	815		
Arg Met Ala Met Tyr Lys	Lys Ser Leu His Ile Asn	Gly Gly Gly Ser			
	820	825	830		
Ala Ala Glu Gln Arg Glu	Lys Ile Lys Gln Phe Ser	Gln Gln Glu Glu			
	835	840	845		
Lys Arg Gln Lys Ser Glu	Arg Leu Gln Gln Gln Lys	His Glu Asn			
	850	855	860		
Gln Met Arg Asp Met Leu	Ala Gln Cys Glu Ser Asn	Met Ser Glu Leu			
865	870	875	880		
Gln Gln Leu Gln Asn Glu	Lys Cys His Leu Leu Val	Glu His Glu Thr			
	885	890	895		
Gln Lys Leu Lys Ala Leu	Asp Glu Ser His Asn Gln	Asn Leu Lys Glu			
	900	905	910		
Trp Arg Asp Lys Leu Arg	Pro Arg Lys Lys Ala Leu	Glu Glu Asp Leu			
	915	920	925		
Asn Gln Lys Lys Arg Glu	Gln Glu Met Phe Phe Lys	Leu Ser Glu Glu			
	930	935	940		
Ala Glu Cys Pro Asn Pro	Ser Thr Pro Ser Lys Ala	Ala Lys Phe Phe			
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Pro Tyr Ser Ser Ala Asp	Ala Ser				
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 Met Tyr Phe Cys Trp Gly Ala Asp Ser Arg
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gag ctg cag cgc cgg agg acg gcg ggc agc ccc ggg gct gag cta ctg	159
Glu Leu Gln Arg Arg Thr Ala Gly Ser Pro Gly Ala Glu Leu Leu	
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cag gcg gcc agc ggg gag cgc cac tct ctg ctg ctg ctg acc aac cac	207
Gln Ala Ala Ser Gly Glu Arg His Ser Leu Leu Leu Leu Thr Asn His	
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agg gtc ctc tcg tgc gga gac aac agc agg ggt cag ctg ggc cgc agg	255
Arg Val Leu Ser Cys Gly Asp Asn Ser Arg Gly Gln Leu Gly Arg Arg	
45 50 55	
ggc gcg cag cgc ggg gag ctg cca gaa cca att cag gca ttg gaa acc	303
Gly Ala Gln Arg Gly Glu Leu Pro Glu Pro Ile Gln Ala Leu Glu Thr	
60 65 70	
cta att gtt gat ctc gtg agc tgc ggg aag gag cac tcc ctg gct gtg	351
Leu Ile Val Asp Leu Val Ser Cys Gly Lys Glu His Ser Leu Ala Val	
75 80 85 90	
tgc cac aaa gga agg gtc ttc gca tgg gga gct ggt tct gaa ggg cag	399
Cys His Lys Gly Arg Val Phe Ala Trp Gly Ala Gly Ser Glu Gly Gln	
95 100 105	
ctg ggg att gga gaa ttc aag gaa ata agt ttc aca cct aag aaa ata	447
Leu Gly Ile Gly Glu Phe Lys Glu Ile Ser Phe Thr Pro Lys Lys Ile	
110 115 120	
atg act ctg aat gat ata aaa ata ata caa gtt tcc tgt gga cac tac	495
Met Thr Leu Asn Asp Ile Lys Ile Ile Gln Val Ser Cys Gly His Tyr	
125 130 135	
cac tcc ctg gca tta tca aaa gat agc caa gtg ttt tcg tgg gga aag	543
His Ser Leu Ala Leu Ser Lys Asp Ser Gln Val Phe Ser Trp Gly Lys	
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Asn Ser His Gly Gln Leu Gly Leu Gly Lys Glu Phe Pro Ser Gln Ala	
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Ser Pro Gln Arg Val Arg Ser Leu Glu Gly Ile Pro Leu Ala Gln Val	
175 180 185	
gct gcc gga ggg gct cac agc ttt gcc ctg tct ctc tgt ggg act tcg	687
Ala Ala Gly Gly Ala His Ser Phe Ala Leu Ser Leu Cys Gly Thr Ser	
190 195 200	
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Phe Gly Trp Gly Ser Asn Ser Ala Gly Gln Leu Ala Leu Ser Gly Arg	
205 210 215	
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Asn Val Pro Val Gln Ser Asn Lys Pro Leu Ser Val Gly Ala Leu Lys	
220 225 230	
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Asn Leu Gly Val Val Tyr Ile Ser Cys Gly Asp Ala His Thr Ala Val	
235 240 245 250	

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Leu Thr Gln Asp Gly Lys Val Phe Thr Phe Gly Asp Asn Arg Ser Gly	
255 260 265	
cag ctg gga tac agc ccc act cct gag aag aga ggt cca caa ctt gtg	927
Gln Leu Gly Tyr Ser Pro Thr Pro Glu Lys Arg Gly Pro Gln Leu Val	
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Glu Arg Ile Asp Gly Leu Val Ser Gln Ile Asp Cys Gly Ser Tyr His	
285 290 295	
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Thr Leu Ala Tyr Val His Thr Thr Gly Gln Val Val Ser Phe Gly His	
300 305 310	
gga cca agt gac aca agc aag cca act cat ccg gag gcc ctg aca gag	1071
Gly Pro Ser Asp Thr Ser Lys Pro Thr His Pro Glu Ala Leu Thr Glu	
315 320 325 330	
aac ttt gac att agc tgc ctg att tct gct gaa gac ttc gtg gat gtt	1119
Asn Phe Asp Ile Ser Cys Leu Ile Ser Ala Glu Asp Phe Val Asp Val	
335 340 345	
caa gtc aaa cac att ttt gct gga aca tat gcc aac ttt gtg aca act	1167
Gln Val Lys His Ile Phe Ala Gly Thr Tyr Ala Asn Phe Val Thr Thr	
350 355 360	
cat cag gat act agt tcc aca cgt gct ccc ggg aaa acc ctg cca gaa	1215
His Gln Asp Thr Ser Ser Thr Arg Ala Pro Gly Lys Thr Leu Pro Glu	
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ata agc cga att agc cag tcc atg gca gaa aaa tgg ata gca gtg aaa	1263
Ile Ser Arg Ile Ser Gln Ser Met Ala Glu Lys Trp Ile Ala Val Lys	
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Arg Arg Ser Thr Glu His Glu Met Ala Lys Ser Glu Ile Arg Met Ile	
395 400 405 410	
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Phe Ser Ser Pro Ala Cys Leu Thr Ala Ser Phe Leu Lys Lys Arg Gly	
415 420 425	
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Thr Gly Glu Thr Thr Ser Ile Asp Val Asp Leu Glu Met Ala Arg Asp	
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Thr Phe Lys Lys Leu Thr Lys Lys Glu Trp Ile Ser Ser Met Ile Thr	
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Thr Cys Leu Glu Asp Asp Leu Leu Arg Ala Leu Pro Cys His Ser Pro	
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His Gln Glu Ala Leu Ser Val Phe Leu Leu Pro Glu Cys Pro Val	
475 480 485 490	
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				495					500					505			
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Ala	Val	Cys	Glu	Met	Ser	Lys	Gln	Ser	Leu	Gln	Val	Leu	Lys	Lys	Cys		
			510					515					520				
tgg	gca	ttt	ttg	caa	gaa	tct	tct	ctg	aat	ccg	ctg	atc	cag	atg	ctt	1695	
Trp	Ala	Phe	Leu	Gln	Glu	Ser	Ser	Leu	Asn	Pro	Leu	Ile	Gln	Met	Leu		
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aaa	gca	gcc	atc	atc	tct	cag	ctg	ctt	cat	cag	act	aaa	acc	gaa	cag	1743	
Lys	Ala	Ala	Ile	Ile	Ser	Gln	Leu	Leu	His	Gln	Thr	Lys	Thr	Glu	Gln		
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gat	cac	tgt	aat	gtt	aaa	gct	ctt	tta	gga	atg	atg	aaa	gaa	ctg	cat	1791	
Asp	His	Cys	Asn	Val	Lys	Ala	Leu	Leu	Gly	Met	Met	Lys	Glu	Leu	His		
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Lys	Val	Asn	Lys	Ala	Asn	Cys	Arg	Leu	Pro	Glu	Asn	Thr	Phe	Asn	Ile		
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Asn	Glu	Leu	Ser	Asn	Leu	Leu	Asn	Phe	Tyr	Ile	Asp	Arg	Gly	Arg	Gln		
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Ile	Phe	Ser	Asp	Phe	Pro	Phe	Ile	Phe	Asn	Ser	Leu	Ser	Lys	Ile	Lys		
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Leu	Leu	Gln	Ala	Asp	Ser	His	Ile	Lys	Met	Gln	Met	Ser	Glu	Lys	Lys		
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Ala	Tyr	Met	Leu	Met	His	Glu	Thr	Ile	Leu	Gln	Lys	Lys	Asp	Glu	Phe		
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cct	cca	tca	ccc	aga	ttt	ata	ctt	aga	gtc	aga	cga	agt	cgc	ctg	gtt	2127	
Pro	Pro	Ser	Pro	Arg	Phe	Ile	Leu	Arg	Val	Arg	Arg	Ser	Arg	Leu	Val		
			670					675					680				
aaa	gat	gct	ctg	cgt	caa	tta	agt	caa	gct	gaa	gct	act	gac	ttc	tgc	2175	
Lys	Asp	Ala	Leu	Arg	Gln	Leu	Ser	Gln	Ala	Glu	Ala	Thr	Asp	Phe	Cys		
		685					690					695					
aaa	gta	tta	gtg	gtt	gaa	ttt	att	aat	gaa	att	tgt	cct	gag	tct	gga	2223	
Lys	Val	Leu	Val	Val	Glu	Phe	Ile	Asn	Glu	Ile	Cys	Pro	Glu	Ser	Gly		
	700					705					710						
ggg	gtt	agt	tca	gag	ttc	ttc	cac	tgt	atg	ttt	gaa	gag	atg	acc	aag	2271	
Gly	Val	Ser	Ser	Glu	Phe	Phe	His	Cys	Met	Phe	Glu	Glu	Met	Thr	Lys		
715					720					725					730		
cca	gaa	tat	gga	atg	ttc	atg	tat	cct	gaa	atg	ggt	tcc	tgc	atg	tgg	2319	
Pro	Glu	Tyr	Gly	Met	Phe	Met	Tyr	Pro	Glu	Met	Gly	Ser	Cys	Met	Trp		

735										740					745					
ttt	cct	gcc	aag	cct	aaa	cct	gag	aag	aaa	aga	tat	ttc	ctc	ttt	gga	2367				
Phe	Pro	Ala	Lys	Pro	Lys	Pro	Glu	Lys	Lys	Arg	Tyr	Phe	Leu	Phe	Gly					
			750					755					760							
atg	ctg	tgt	gga	ctc	tcc	tta	ttc	aat	tta	aat	gtt	gct	aac	ctt	cct	2415				
Met	Leu	Cys	Gly	Leu	Ser	Leu	Phe	Asn	Leu	Asn	Val	Ala	Asn	Leu	Pro					
		765					770					775								
ttc	cca	ctg	gct	ctg	tat	aaa	aaa	ctt	ctg	gac	caa	aag	cca	tca	ttg	2463				
Phe	Pro	Leu	Ala	Leu	Tyr	Lys	Lys	Leu	Leu	Asp	Gln	Lys	Pro	Ser	Leu					
	780					785					790									
gaa	gat	tta	aaa	gaa	ctc	agt	cct	cgg	ttg	ggg	aag	agt	ttg	caa	gaa	2511				
Glu	Asp	Leu	Lys	Glu	Leu	Ser	Pro	Arg	Leu	Gly	Lys	Ser	Leu	Gln	Glu					
795					800					805					810					
gtt	cta	gat	gat	gct	gct	gat	gac	att	gga	gat	gcg	ctc	tgc	ata	cgc	2559				
Val	Leu	Asp	Asp	Ala	Ala	Asp	Asp	Ile	Gly	Asp	Ala	Leu	Cys	Ile	Arg					
				815					820				825							
ttt	tct	ata	cac	tgg	gac	caa	aat	gat	gtt	gac	tta	att	cca	aat	ggg	2607				
Phe	Ser	Ile	His	Trp	Asp	Gln	Asn	Asp	Val	Asp	Leu	Ile	Pro	Asn	Gly					
			830					835					840							
atc	tcc	ata	cct	gtg	gac	caa	acc	aac	aag	aga	gac	tat	gtt	tct	aag	2655				
Ile	Ser	Ile	Pro	Val	Asp	Gln	Thr	Asn	Lys	Arg	Asp	Tyr	Val	Ser	Lys					
			845					850					855							
tat	att	gat	tac	att	ttc	aac	gtc	tct	gta	aaa	gca	gtt	tat	gag	gaa	2703				
Tyr	Ile	Asp	Tyr	Ile	Phe	Asn	Val	Ser	Val	Lys	Ala	Val	Tyr	Glu	Glu					
	860					865					870									
ttt	cag	aga	gga	ttt	tat	aga	gtc	tgt	gag	aag	gag	ata	ctt	aga	cat	2751				
Phe	Gln	Arg	Gly	Phe	Tyr	Arg	Val	Cys	Glu	Lys	Glu	Ile	Leu	Arg	His					
875					880				885						890					
ttc	tac	cct	gaa	gaa	cta	atg	aca	gca	atc	att	gga	aat	act	gat	tat	2799				
Phe	Tyr	Pro	Glu	Glu	Leu	Met	Thr	Ala	Ile	Ile	Gly	Asn	Thr	Asp	Tyr					
				895					900					905						
gac	tgg	aaa	cag	ttt	gaa	cag	aat	tca	aag	tat	gag	caa	gga	tac	caa	2847				
Asp	Trp	Lys	Gln	Phe	Glu	Gln	Asn	Ser	Lys	Tyr	Glu	Gln	Gly	Tyr	Gln					
			910					915					920							
aaa	tca	cat	cct	act	ata	cag	ttg	ttt	tgg	aag	gct	ttc	cac	aaa	cta	2895				
Lys	Ser	His	Pro	Thr	Ile	Gln	Leu	Phe	Trp	Lys	Ala	Phe	His	Lys	Leu					
			925				930					935								
acc	ttg	gat	gaa	aag	aaa	aaa	ttc	ctc	ttt	ttc	ctt	aca	gga	cgt	gat	2943				
Thr	Leu	Asp	Glu	Lys	Lys	Lys	Phe	Leu	Phe	Phe	Leu	Thr	Gly	Arg	Asp					
	940					945					950									
agg	ctg	cat	gca	aga	ggc	ata	cag	aaa	atg	gaa	ata	gta	ttt	cgc	tgt	2991				
Arg	Leu	His	Ala	Arg	Gly	Ile	Gln	Lys	Met	Glu	Ile	Val	Phe	Arg	Cys					
955					960				965						970					
cct	gaa	act	ttc	agt	gaa	aga	gat	cac	cca	aca	tca	ata	act	tgt	cat	3039				
Pro	Glu	Thr	Phe	Ser	Glu	Arg	Asp	His	Pro	Thr	Ser	Ile	Thr	Cys	His					
				975					980					985						

aat att ctc tcc ctc cct aag tat tct aca atg gaa aga atg gag gaa 3087
 Asn Ile Leu Ser Leu Pro Lys Tyr Ser Thr Met Glu Arg Met Glu Glu
 990 995 1000

gca ctt caa gta gcc atc aac aac aac aga gga ttt gtc tca ccc atg 3135
 Ala Leu Gln Val Ala Ile Asn Asn Asn Arg Gly Phe Val Ser Pro Met
 1005 1010 1015

ctc aca cag tca taa tcacctctga gagactcagg gtgggctttc tcacacttgg 3190
 Leu Thr Gln Ser *
 1020

atccttctgt tcttccttac acctaaataa tacaagagat taatgaatag tggtagaag 3250
 tagttgaggg agagattggg ggaatgggga gatgatgatg atgggtcaaag ggtgcaaaat 3310
 ctcacacaag actgaggcag gagaataggg tacagagata gggatctaag gatgacttgg 3370
 acacactccc tggcactgaa gagtctgaac actggcctgt gattgggtcca ttccaggacc 3430
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 <212> PRT
 <213> Homo sapiens

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 Thr Ala Gly Ser Pro Gly Ala Glu Leu Leu Gln Ala Ala Ser Gly Glu
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 Arg His Ser Leu Leu Leu Leu Thr Asn His Arg Val Leu Ser Cys Gly
 35 40 45
 Asp Asn Ser Arg Gly Gln Leu Gly Arg Arg Gly Ala Gln Arg Gly Glu
 50 55 60
 Leu Pro Glu Pro Ile Gln Ala Leu Glu Thr Leu Ile Val Asp Leu Val
 65 70 75 80
 Ser Cys Gly Lys Glu His Ser Leu Ala Val Cys His Lys Gly Arg Val
 85 90 95
 Phe Ala Trp Gly Ala Gly Ser Glu Gly Gln Leu Gly Ile Gly Glu Phe
 100 105 110
 Lys Glu Ile Ser Phe Thr Pro Lys Lys Ile Met Thr Leu Asn Asp Ile
 115 120 125
 Lys Ile Ile Gln Val Ser Cys Gly His Tyr His Ser Leu Ala Leu Ser
 130 135 140
 Lys Asp Ser Gln Val Phe Ser Trp Gly Lys Asn Ser His Gly Gln Leu
 145 150 155 160
 Gly Leu Gly Lys Glu Phe Pro Ser Gln Ala Ser Pro Gln Arg Val Arg
 165 170 175
 Ser Leu Glu Gly Ile Pro Leu Ala Gln Val Ala Ala Gly Gly Ala His
 180 185 190
 Ser Phe Ala Leu Ser Leu Cys Gly Thr Ser Phe Gly Trp Gly Ser Asn
 195 200 205
 Ser Ala Gly Gln Leu Ala Leu Ser Gly Arg Asn Val Pro Val Gln Ser
 210 215 220
 Asn Lys Pro Leu Ser Val Gly Ala Leu Lys Asn Leu Gly Val Val Tyr
 225 230 235 240
 Ile Ser Cys Gly Asp Ala His Thr Ala Val Leu Thr Gln Asp Gly Lys
 245 250 255
 Val Phe Thr Phe Gly Asp Asn Arg Ser Gly Gln Leu Gly Tyr Ser Pro
 260 265 270
 Thr Pro Glu Lys Arg Gly Pro Gln Leu Val Glu Arg Ile Asp Gly Leu

Leu Phe Asn Leu Asn Val Ala Asn Leu Pro Phe Pro Leu Ala Leu Tyr
 770 775 780
 Lys Lys Leu Leu Asp Gln Lys Pro Ser Leu Glu Asp Leu Lys Glu Leu
 785 790 795 800
 Ser Pro Arg Leu Gly Lys Ser Leu Gln Glu Val Leu Asp Asp Ala Ala
 805 810 815
 Asp Asp Ile Gly Asp Ala Leu Cys Ile Arg Phe Ser Ile His Trp Asp
 820 825 830
 Gln Asn Asp Val Asp Leu Ile Pro Asn Gly Ile Ser Ile Pro Val Asp
 835 840 845
 Gln Thr Asn Lys Arg Asp Tyr Val Ser Lys Tyr Ile Asp Tyr Ile Phe
 850 855 860
 Asn Val Ser Val Lys Ala Val Tyr Glu Glu Phe Gln Arg Gly Phe Tyr
 865 870 875 880
 Arg Val Cys Glu Lys Glu Ile Leu Arg His Phe Tyr Pro Glu Glu Leu
 885 890 895
 Met Thr Ala Ile Ile Gly Asn Thr Asp Tyr Asp Trp Lys Gln Phe Glu
 900 905 910
 Gln Asn Ser Lys Tyr Glu Gln Gly Tyr Gln Lys Ser His Pro Thr Ile
 915 920 925
 Gln Leu Phe Trp Lys Ala Phe His Lys Leu Thr Leu Asp Glu Lys Lys
 930 935 940
 Lys Phe Leu Phe Phe Leu Thr Gly Arg Asp Arg Leu His Ala Arg Gly
 945 950 955 960
 Ile Gln Lys Met Glu Ile Val Phe Arg Cys Pro Glu Thr Phe Ser Glu
 965 970 975
 Arg Asp His Pro Thr Ser Ile Thr Cys His Asn Ile Leu Ser Leu Pro
 980 985 990
 Lys Tyr Ser Thr Met Glu Arg Met Glu Glu Ala Leu Gln Val Ala Ile
 995 1000 1005
 Asn Asn Asn Arg Gly Phe Val Ser Pro Met Leu Thr Gln Ser
 1010 1015 1020

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 ccatgagccc ctccgcgact cggcgctgag cccgccaccg gtccagcgcc ccaggacccg 180
 ccgcccggctg ccggcttgcc gaagccccct caggatcccc tcaacaagg atg gaa ctg 238
 Met Glu Leu
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aag gcc gag gag gag gag gtg ggt ggc gtc cag ccg gtg agc atc cag 286
 Lys Ala Glu Glu Glu Glu Val Gly Gly Val Gln Pro Val Ser Ile Gln
 5 10 15

gcc ttc gcc agc agc tcc aca ctg cac ggc ctg gcc cac atc ttc tcc 334
 Ala Phe Ala Ser Ser Ser Thr Leu His Gly Leu Ala His Ile Phe Ser
 20 25 30 35

tac gag cgg ctg tct ctg aag cgg gca ctg tgg gcc ctg tgc ttc ctg 382

Tyr	Glu	Arg	Leu	Ser	Leu	Lys	Arg	Ala	Leu	Trp	Ala	Leu	Cys	Phe	Leu		
				40					45					50			
ggc	tcg	ctg	gct	gtg	ctg	ctg	tgt	gtg	tgc	acg	gag	cgt	gtg	cag	tac	430	
Gly	Ser	Leu	Ala	Val	Leu	Leu	Cys	Val	Cys	Thr	Glu	Arg	Val	Gln	Tyr		
			55					60					65				
tac	ttc	cac	tac	cac	cat	gtc	acc	aag	ctc	gac	gag	gtg	gct	gcc	tct	478	
Tyr	Phe	His	Tyr	His	His	Val	Thr	Lys	Leu	Asp	Glu	Val	Ala	Ala	Ser		
		70					75					80					
cag	ctt	acc	ttc	cct	gct	gtc	acg	ctg	tgc	aac	ctc	aac	gag	ttc	cgc	526	
Gln	Leu	Thr	Phe	Pro	Ala	Val	Thr	Leu	Cys	Asn	Leu	Asn	Glu	Phe	Arg		
	85					90					95						
ttt	agc	caa	gtc	tcc	aag	aat	gac	ctg	tat	cat	gct	ggg	gag	ctg	ctg	574	
Phe	Ser	Gln	Val	Ser	Lys	Asn	Asp	Leu	Tyr	His	Ala	Gly	Glu	Leu	Leu		
100					105					110				115			
gcc	ctg	ctc	aac	aac	agg	tat	gag	ata	cca	gac	aca	cag	atg	gca	gat	622	
Ala	Leu	Leu	Asn	Asn	Arg	Tyr	Glu	Ile	Pro	Asp	Thr	Gln	Met	Ala	Asp		
				120					125					130			
gaa	aag	cag	ctg	gag	ata	ctg	cag	gac	aaa	gcc	aac	ttc	cgc	agc	ttc	670	
Glu	Lys	Gln	Leu	Glu	Ile	Leu	Gln	Asp	Lys	Ala	Asn	Phe	Arg	Ser	Phe		
			135					140					145				
aaa	ccc	aaa	ccc	ttc	aac	atg	cgt	gag	ttc	tac	gac	cga	gct	ggg	cac	718	
Lys	Pro	Lys	Pro	Phe	Asn	Met	Arg	Glu	Phe	Tyr	Asp	Arg	Ala	Gly	His		
		150					155					160					
gac	att	cga	gac	atg	ctg	ctc	tcc	tgc	cac	ttc	cgg	ggg	gag	gtc	tgc	766	
Asp	Ile	Arg	Asp	Met	Leu	Leu	Ser	Cys	His	Phe	Arg	Gly	Glu	Val	Cys		
	165					170					175						
agc	gct	gaa	gac	ttc	aag	gtg	gtc	ttc	aca	cgc	tat	gga	aag	tgc	tac	814	
Ser	Ala	Glu	Asp	Phe	Lys	Val	Val	Phe	Thr	Arg	Tyr	Gly	Lys	Cys	Tyr		
180					185					190				195			
acg	ttc	aac	tcg	ggc	cga	gat	ggg	cgg	ccg	cgg	ctg	aag	acc	atg	aag	862	
Thr	Phe	Asn	Ser	Gly	Arg	Asp	Gly	Arg	Pro	Arg	Leu	Lys	Thr	Met	Lys		
				200				205						210			
gat	ggg	acg	ggc	aat	ggg	ctg	gaa	atc	atg	ctg	gac	atc	cag	cag	gac	910	
Asp	Gly	Thr	Gly	Asn	Gly	Leu	Glu	Ile	Met	Leu	Asp	Ile	Gln	Gln	Asp		
			215					220					225				
gag	tac	ctg	cct	gtg	tgg	ggg	gag	act	gac	gag	acg	tcc	ttc	gaa	gca	958	
Glu	Tyr	Leu	Pro	Val	Trp	Gly	Glu	Thr	Asp	Glu	Thr	Ser	Phe	Glu	Ala		
		230					235					240					
ggc	atc	aaa	gtg	cag	atc	cat	agt	cag	gat	gaa	cct	cct	ttc	atc	gac	1006	
Gly	Ile	Lys	Val	Gln	Ile	His	Ser	Gln	Asp	Glu	Pro	Pro	Phe	Ile	Asp		
	245					250					255						
cag	ctg	ggc	ttt	ggc	gtg	gcc	cca	ggc	ttc	cag	acc	ttt	gtg	gcc	tgc	1054	
Gln	Leu	Gly	Phe	Gly	Val	Ala	Pro	Gly	Phe	Gln	Thr	Phe	Val	Ala	Cys		
260					265					270				275			
cag	gag	cag	cgg	ctc	atc	tac	ctg	ccc	cca	ccc	tgg	ggc	acc	tgc	aaa	1102	
Gln	Glu	Gln	Arg	Leu	Ile	Tyr	Leu	Pro	Pro	Pro	Trp	Gly	Thr	Cys	Lys		

280										285					290					
gct gtt acc atg gac tcg gat ttg gat ttc ttc gac tcc tac agc atc	1150																			
Ala Val Thr Met Asp Ser Asp Leu Asp Phe Phe Asp Ser Tyr Ser Ile																				
295 300 305																				
act gcc tgc cgc atc gac tgt gag acg cgc tac ctg gtg gag aac tgc	1198																			
Thr Ala Cys Arg Ile Asp Cys Glu Thr Arg Tyr Leu Val Glu Asn Cys																				
310 315 320																				
aac tgc cgc atg gtg cac atg cca ggg gat gcc cca tac tgt act cca	1246																			
Asn Cys Arg Met Val His Met Pro Gly Asp Ala Pro Tyr Cys Thr Pro																				
325 330 335																				
gag cag tac aag gag tgt gca gat cct gct ctg gac ttc ctg gtg gag	1294																			
Glu Gln Tyr Lys Glu Cys Ala Asp Pro Ala Leu Asp Phe Leu Val Glu																				
340 345 350 355																				
aag gac cag gag tac tgc gtg tgt gaa atg cct tgc aac ctg acc cgc	1342																			
Lys Asp Gln Glu Tyr Cys Val Cys Glu Met Pro Cys Asn Leu Thr Arg																				
360 365 370																				
tat ggc aaa gag ctg tcc atg gtc aag atc ccc agc aaa gcc tca gcc	1390																			
Tyr Gly Lys Glu Leu Ser Met Val Lys Ile Pro Ser Lys Ala Ser Ala																				
375 380 385																				
aag tac ctg gcc aag aag ttc aac aaa tct gag caa tac ata ggg gag	1438																			
Lys Tyr Leu Ala Lys Lys Phe Asn Lys Ser Glu Gln Tyr Ile Gly Glu																				
390 395 400																				
aac atc ctg gtg ctg gac att ttc ttt gaa gtc ctc aac tat gag acc	1486																			
Asn Ile Leu Val Leu Asp Ile Phe Phe Glu Val Leu Asn Tyr Glu Thr																				
405 410 415																				
att gaa cag aag aag gcc tat gag att gca ggg ctc ctg ggt gag ctg	1534																			
Ile Glu Gln Lys Lys Ala Tyr Glu Ile Ala Gly Leu Leu Gly Glu Leu																				
420 425 430 435																				
ctg atg aca cct gtc ccc ttc tca tgc cat ggg cat ggc gtg gct ccc	1582																			
Leu Met Thr Pro Val Pro Phe Ser Cys His Gly His Gly Val Ala Pro																				
440 445 450																				
tat cat cca aaa gca ggg tgc tca ctt ctg tcc cat gag ggt cct cca	1630																			
Tyr His Pro Lys Ala Gly Cys Ser Leu Leu Ser His Glu Gly Pro Pro																				
455 460 465																				
ccc cag agg ccc ttc ccc aaa ccc tgt tgt ctt ggt gac atc ggg ggc	1678																			
Pro Gln Arg Pro Phe Pro Lys Pro Cys Cys Leu Gly Asp Ile Gly Gly																				
470 475 480																				
cag atg ggg ctg ttc atc ggg gcc agc atc ctc acg gtg ctg gag ctc	1726																			
Gln Met Gly Leu Phe Ile ggg gcc Ala Ser Ile Leu Thr Val Leu Glu Leu																				
485 490 495																				
ttt gac tac gcc tac gag gtc att aag cac aag ctg tgc cga cga gga	1774																			
Phe Asp Tyr Ala Tyr Glu Val Ile Lys His Lys Leu Cys Arg Arg Gly																				
500 505 510 515																				
aaa tgc cag aag gag gcc aaa agg agc agt gcg gac aag ggc gtg gcc	1822																			
Lys Cys Gln Lys Glu Ala Lys Arg Ser Ser Ala Asp Lys Gly Val Ala																				
520 525 530																				

ctc agc ctg gac gac gtc aaa aga cac aac ccg tgc gag agc ctt cgg 1870
 Leu Ser Leu Asp Asp Val Lys Arg His Asn Pro Cys Glu Ser Leu Arg
 535 540 545

ggc cac cct gcc ggg atg aca tac gct gcc aac atc cta cct cac cat 1918
 Gly His Pro Ala Gly Met Thr Tyr Ala Ala Asn Ile Leu Pro His His
 550 555 560

ccg gcc cga ggc acg ttc gag gac ttt acc tgc tga gccccgcagg 1964
 Pro Ala Arg Gly Thr Phe Glu Asp Phe Thr Cys *
 565 570

ccgctgaacc aaaggcctag atggggagga ctaggagagc grggggggccc ccagctgcct 2024
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 Ser Ile Gln Ala Phe Ala Ser Ser Ser Thr Leu His Gly Leu Ala His
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 Ile Phe Ser Tyr Glu Arg Leu Ser Leu Lys Arg Ala Leu Trp Ala Leu
 35 40 45
 Cys Phe Leu Gly Ser Leu Ala Val Leu Leu Cys Val Cys Thr Glu Arg
 50 55 60

Val	Gln	Tyr	Tyr	Phe	His	Tyr	His	His	Val	Thr	Lys	Leu	Asp	Glu	Val
65					70					75					80
Ala	Ala	Ser	Gln	Leu	Thr	Phe	Pro	Ala	Val	Thr	Leu	Cys	Asn	Leu	Asn
				85					90					95	
Glu	Phe	Arg	Phe	Ser	Gln	Val	Ser	Lys	Asn	Asp	Leu	Tyr	His	Ala	Gly
			100					105					110		
Glu	Leu	Leu	Ala	Leu	Leu	Asn	Asn	Arg	Tyr	Glu	Ile	Pro	Asp	Thr	Gln
		115					120					125			
Met	Ala	Asp	Glu	Lys	Gln	Leu	Glu	Ile	Leu	Gln	Asp	Lys	Ala	Asn	Phe
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Arg	Ser	Phe	Lys	Pro	Lys	Pro	Phe	Asn	Met	Arg	Glu	Phe	Tyr	Asp	Arg
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Ala	Gly	His	Asp	Ile	Arg	Asp	Met	Leu	Leu	Ser	Cys	His	Phe	Arg	Gly
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Glu	Val	Cys	Ser	Ala	Glu	Asp	Phe	Lys	Val	Val	Phe	Thr	Arg	Tyr	Gly
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Lys	Cys	Tyr	Thr	Phe	Asn	Ser	Gly	Arg	Asp	Gly	Arg	Pro	Arg	Leu	Lys
		195					200					205			
Thr	Met	Lys	Asp	Gly	Thr	Gly	Asn	Gly	Leu	Glu	Ile	Met	Leu	Asp	Ile
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Gln	Gln	Asp	Glu	Tyr	Leu	Pro	Val	Trp	Gly	Glu	Thr	Asp	Glu	Thr	Ser
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Phe	Glu	Ala	Gly	Ile	Lys	Val	Gln	Ile	His	Ser	Gln	Asp	Glu	Pro	Pro
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Thr	Cys	Lys	Ala	Val	Thr	Met	Asp	Ser	Asp	Leu	Asp	Phe	Phe	Asp	Ser
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Tyr	Ser	Ile	Thr	Ala	Cys	Arg	Ile	Asp	Cys	Glu	Thr	Arg	Tyr	Leu	Val
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Cys	Thr	Pro	Glu	Gln	Tyr	Lys	Glu	Cys	Ala	Asp	Pro	Ala	Leu	Asp	Phe
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Ile	Gly	Glu	Asn	Ile	Leu	Val	Leu	Asp	Ile	Phe	Phe	Glu	Val	Leu	Asn
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Tyr	Glu	Thr	Ile	Glu	Gln	Lys	Lys	Ala	Tyr	Glu	Ile	Ala	Gly	Leu	Leu
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Ile	Gly	Gly	Gln	Met	Gly	Leu	Phe	Ile	Gly	Ala	Ser	Ile	Leu	Thr	Val
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Arg	Arg	Gly	Lys	Cys	Gln	Lys	Glu	Ala	Lys	Arg	Ser	Ser	Ala	Asp	Lys
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Gly	Val	Ala	Leu	Ser	Leu	Asp	Asp	Val	Lys	Arg	His	Asn	Pro	Cys	Glu
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ccc	ttg	ctg	ctg	ctg	ctg	cct	ctg	ctg	aat	gtg	gag	cct	gct	ggg	gcc	102
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Thr	Leu	Ile	Arg	Ile	Pro	Leu	Arg	Gln	Val	His	Pro	Gly	Arg	Arg	Thr	
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Leu	Asn	Leu	Leu	Arg	Gly	Trp	Gly	Lys	Pro	Ala	Glu	Leu	Pro	Lys	Leu	
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Gly	Ala	Pro	Ser	Pro	Gly	Asp	Lys	Pro	Ala	Ser	Val	Pro	Leu	Ser	Lys	
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Phe	Leu	Asp	Ala	Gln	Tyr	Phe	Gly	Glu	Ile	Gly	Leu	Gly	Thr	Pro	Pro	
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Gln	Asn	Phe	Thr	Val	Ala	Phe	Asp	Thr	Gly	Ser	Ser	Asn	Leu	Trp	Val	
90 95 100																
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Pro	Ser	Arg	Arg	Cys	His	Phe	Phe	Ser	Val	Pro	Cys	Trp	Phe	His	His	
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Arg	Phe	Asn	Pro	Asn	Ala	Ser	Ser	Ser	Phe	Lys	Pro	Ser	Gly	Thr	Lys	
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atc ctg gat aca ggc aca cct gtc atc gta gga ccc act gag gag atc Ile Leu Asp Thr Gly Thr Pro Val Ile Val Gly Pro Thr Glu Glu Ile 285 290 295			918
cgg gcc ctg cat gca gcc att ggg gga atc ccc ttg ctg gct ggg gag Arg Ala Leu His Ala Ala Ile Gly Gly Ile Pro Leu Leu Ala Gly Glu 300 305 310			966
tac atc atc cgg tgc tca gaa atc cca aag ctc ccc gca gtc tca ctc Tyr Ile Ile Arg Cys Ser Glu Ile Pro Lys Leu Pro Ala Val Ser Leu 315 320 325			1014
ctc att ggg ggg gtc tgg ttt aat ctc acg gcc cag gat tac gtc atc Leu Ile Gly Gly Val Trp Phe Asn Leu Thr Ala Gln Asp Tyr Val Ile 330 335 340			1062
cag ttt gct cag ggt gac gtc cgc ctc tgc ttg tcc ggc ttc cgg gcc Gln Phe Ala Gln Gly Asp Val Arg Leu Cys Leu Ser Gly Phe Arg Ala 345 350 355 360			1110
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ttc ttg ggg gcg tat gtg acc gtc ttc gac cgc ggg gac atg aag agc Phe Leu Gly Ala Tyr Val Thr Val Phe Asp Arg Gly Asp Met Lys Ser 380 385 390			1206
ggc gca cga gtg gga ctg gcg cgc gct cgc cct cgc gga gcg gac ctg Gly Ala Arg Val Gly Leu Ala Arg Ala Arg Pro Arg Gly Ala Asp Leu 395 400 405			1254
gga agg cgc gag acc gcg cag gcg cag tac cgc ggg tgc cgc cca ggt Gly Arg Arg Glu Thr Ala Gln Ala Gln Tyr Arg Gly Cys Arg Pro Gly 410 415 420			1302

gat gcg cat gcg cac cgg gta gca gag cta gcg cta ctc agt aaa aat 1350
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 Gln Val His Pro Gly Arg Arg Thr Leu Asn Leu Leu Arg Gly Trp Gly
 35 40 45
 Lys Pro Ala Glu Leu Pro Lys Leu Gly Ala Pro Ser Pro Gly Asp Lys
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 Pro Ala Ser Val Pro Leu Ser Lys Phe Leu Asp Ala Gln Tyr Phe Gly
 65 70 75 80
 Glu Ile Gly Leu Gly Thr Pro Pro Gln Asn Phe Thr Val Ala Phe Asp
 85 90 95
 Thr Gly Ser Ser Asn Leu Trp Val Pro Ser Arg Arg Cys His Phe Phe
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 Ser Val Pro Cys Trp Phe His His Arg Phe Asn Pro Asn Ala Ser Ser
 115 120 125
 Ser Phe Lys Pro Ser Gly Thr Lys Phe Ala Ile Gln Tyr Gly Thr Gly
 130 135 140
 Arg Val Asp Gly Ile Leu Ser Glu Asp Lys Leu Thr Ile Gly Gly Ile
 145 150 155 160
 Lys Gly Ala Ser Val Ile Phe Gly Glu Ala Leu Trp Glu Ser Ser Leu
 165 170 175
 Val Phe Thr Val Ser Arg Pro Asp Gly Ile Leu Gly Leu Gly Phe Pro
 180 185 190
 Ile Leu Ser Val Glu Gly Val Arg Pro Pro Leu Asp Val Leu Val Glu
 195 200 205
 Gln Gly Leu Leu Asp Lys Pro Val Phe Ser Phe Tyr Phe Asn Arg Asp
 210 215 220
 Pro Glu Val Ala Asp Gly Gly Glu Leu Val Leu Gly Gly Ser Asp Pro
 225 230 235 240
 Ala His Tyr Ile Pro Pro Leu Thr Phe Val Pro Val Thr Val Pro Ala
 245 250 255
 Tyr Trp Gln Ile His Met Glu Arg Val Lys Val Gly Ser Arg Leu Thr
 260 265 270
 Leu Cys Ala Gln Gly Cys Ala Ala Ile Leu Asp Thr Gly Thr Pro Val
 275 280 285
 Ile Val Gly Pro Thr Glu Glu Ile Arg Ala Leu His Ala Ala Ile Gly
 290 295 300
 Gly Ile Pro Leu Leu Ala Gly Glu Tyr Ile Ile Arg Cys Ser Glu Ile
 305 310 315 320

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Thr Leu Arg Tyr Cys Ala Gly Trp Ala Asp Lys Ile Gln Gly Arg Thr	
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ata cca att gat gga aat ttt ttt aca tat aca aga cat gaa cct att	480
Ile Pro Ile Asp Gly Asn Phe Phe Thr Tyr Thr Arg His Glu Pro Ile	
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Gly Val Cys Gly Gln Ile Ile Pro Trp Asn Phe Pro Leu Val Met Leu	
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Ile Trp Lys Ile Gly Pro Ala Leu Ser Cys Gly Asn Thr Val Val Val	
180 185 190	
aaa cca gca gag caa act cct ctc act gct ctc cac gtg gca tct tta	624
Lys Pro Ala Glu Gln Thr Pro Leu Thr Ala Leu His Val Ala Ser Leu	
195 200 205	
ata aaa gag gca ggg ttt cct cct gga gta gtg aat att gtt cct ggt	672
Ile Lys Glu Ala Gly Phe Pro Pro Gly Val Val Asn Ile Val Pro Gly	
210 215 220	
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Tyr Gly Pro Thr Ala Gly Ala Ala Ile Ser Ser His Met Asp Ile Asp	
225 230 235 240	
aaa gta gcc ttc aca gga tca aca gag gtt ggc aag ttg atc aaa gaa	768
Lys Val Ala Phe Thr Gly Ser Thr Glu Val Gly Lys Leu Ile Lys Glu	
245 250 255	
gct gcc ggg aaa agc aat ctg aag agg gtg acc ctg gag ctt gga gga	816
Ala Ala Gly Lys Ser Asn Leu Lys Arg Val Thr Leu Glu Leu Gly Gly	
260 265 270	
aag agc cct tgc att gtg tta gct gat gcc gac ttg gac aat gct gtt	864
Lys Ser Pro Cys Ile Val Leu Ala Asp Ala Asp Leu Asp Asn Ala Val	
275 280 285	
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Glu Phe Ala His His Gly Val Phe Tyr His Gln Gly Gln Cys Cys Ile	
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gcc gca tcc agg att ttt gtg gaa gaa tca att tat gat gag ttt gtt	960
Ala Ala Ser Arg Ile Phe Val Glu Glu Ser Ile Tyr Asp Glu Phe Val	
305 310 315 320	
cga agg agt gtt gag cgg gct aag aag tat atc ctt gga aat cct ctg	1008
Arg Arg Ser Val Glu Arg Ala Lys Lys Tyr Ile Leu Gly Asn Pro Leu	
325 330 335	
acc cca gga gtc act caa ggc cct cag att gac aag gaa caa tat gat	1056
Thr Pro Gly Val Thr Gln Gly Pro Gln Ile Asp Lys Glu Gln Tyr Asp	
340 345 350	
aaa ata ctt gac ctc att gag agt ggg aag aaa gaa ggg gcc aaa ctg	1104
Lys Ile Leu Asp Leu Ile Glu Ser Gly Lys Lys Glu Gly Ala Lys Leu	
355 360 365	
gaa tgt gga gga ggc ccg tgg ggg aat aaa ggc tac ttt gtc cag ccc	1152

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Val	Ile	Lys	Arg	Ala	Asn	Asn	Thr	Phe	Tyr	Gly	Leu	Ser	Ala	Gly	Val		
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Phe	Thr	Lys	Asp	Ile	Asp	Lys	Ala	Ile	Thr	Ile	Ser	Ser	Ala	Leu	Gln		
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Ala	Gly	Thr	Val	Trp	Val	Asn	Cys	Tyr	Gly	Val	Val	Ser	Ala	Gln	Cys		
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ccc	ttt	ggc	gga	ttc	aag	atg	tct	gga	aat	gga	aga	gaa	ctg	gga	gag	1440	
Pro	Phe	Gly	Gly	Phe	Lys	Met	Ser	Gly	Asn	Gly	Arg	Glu	Leu	Gly	Glu		
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Tyr	Gly	Phe	His	Glu	Tyr	Thr	Glu	Val	Lys	Thr	Val	Thr	Val	Lys	Ile		
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Leu	Cys	Gln	Val	Glu	Glu	Gly	Asp	Lys	Glu	Asp	Val	Asp	Lys	Ala	Val		
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Asp	Ala	Ser	Glu	Arg	Gly	Arg	Leu	Leu	Tyr	Lys	Leu	Ala	Asp	Leu	Ile		
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Lys	Leu	Tyr	Ser	Asn	Ala	Tyr	Leu	Ser	Asp	Leu	Ala	Gly	Cys	Ile	Lys		
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Thr	Leu	Arg	Tyr	Cys	Ala	Gly	Trp	Ala	Asp	Lys	Ile	Gln	Gly	Arg	Thr		
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Lys	Pro	Ala	Glu	Gln	Thr	Pro	Leu	Thr	Ala	Leu	His	Val	Ala	Ser Leu
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Tyr	Gly	Pro	Thr	Ala	Gly	Ala	Ala	Ile	Ser	Ser	His	Met	Asp	Ile Asp
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Lys	Val	Ala	Phe	Thr	Gly	Ser	Thr	Glu	Val	Gly	Lys	Leu	Ile	Lys Glu
			245						250					255
Ala	Ala	Gly	Lys	Ser	Asn	Leu	Lys	Arg	Val	Thr	Leu	Glu	Leu	Gly Gly
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Lys	Ser	Pro	Cys	Ile	Val	Leu	Ala	Asp	Ala	Asp	Leu	Asp	Asn	Ala Val
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Thr	Val	Phe	Ser	Asn	Val	Thr	Asp	Glu	Met	Arg	Ile	Ala	Lys	Glu Glu
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Ile	Phe	Gly	Pro	Val	Gln	Gln	Ile	Met	Lys	Phe	Lys	Ser	Leu	Asp Asp
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Val	Ile	Lys	Arg	Ala	Asn	Asn	Thr	Phe	Tyr	Gly	Leu	Ser	Ala	Gly Val
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Phe	Thr	Lys	Asp	Ile	Asp	Lys	Ala	Ile	Thr	Ile	Ser	Ser	Ala	Leu Gln
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Ala	Gly	Thr	Val	Trp	Val	Asn	Cys	Tyr	Gly	Val	Val	Ser	Ala	Gln Cys
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Pro	Phe	Gly	Gly	Phe	Lys	Met	Ser	Gly	Asn	Gly	Arg	Glu	Leu	Gly Glu
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Glu	Leu	Glu	Thr	Asn	Gly	Arg	Asp	His	His	Thr	Ala	Asp	Leu	Cys	Arg										
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Tyr Ile Ile Ile Phe Leu Thr Gly Leu Pro Ala Asn Leu Leu Ala Leu
15 20 25

cgg gcc ttt gtg ggg cgg atc cgc cag ccc cag cct gca cct gtg cac 145
Arg Ala Phe Val Gly Arg Ile Arg Gln Pro Gln Pro Ala Pro Val His
30 35 40 45

atc ctc ctg ctg agc ctg acg ctg gcc gac ctc ctc ctg ctg ctg ctg 193
Ile Leu Leu Leu Ser Leu Thr Leu Ala Asp Leu Leu Leu Leu Leu Leu
50 55 60

ctg ccc ttc aag atc atc gag gct gcg tcg aac ttc cgc tgg tac ctg 241
Leu Pro Phe Lys Ile Ile Glu Ala Ala Ser Asn Phe Arg Trp Tyr Leu
65 70 75

ccc aag gtc gtc tgc gcc ctc acg agt ttt ggc ttc tac agc agc atc 289
Pro Lys Val Val Cys Ala Leu Thr Ser Phe Gly Phe Tyr Ser Ser Ile
80 85 90

tac tgc agc acg tgg ctc ctg gcg ggc atc agc atc gag cgc tac ctg 337
Tyr Cys Ser Thr Trp Leu Leu Ala Gly Ile Ser Ile Glu Arg Tyr Leu
95 100 105

gga gtg gct ttc ccc gtg cag tac aag ctc tcc cgc cgg cct ctg tat 385
Gly Val Ala Phe Pro Val Gln Tyr Lys Leu Ser Arg Arg Pro Leu Tyr
110 115 120 125

gga gtg att gca gct ctg gtg gcc tgg gtt atg tcc ttt ggt cac tgc 433
Gly Val Ile Ala Ala Leu Val Ala Trp Val Met Ser Phe Gly His Cys
130 135 140

acc atc gtg atc atc gtt caa tac ttg aac acg act gag cag gtc aga 481
Thr Ile Val Ile Ile Val Gln Tyr Leu Asn Thr Thr Glu Gln Val Arg
145 150 155

agt ggc aat gaa att acc tgc tac gag aac ttc acc gat aac cag ttg	529
Ser Gly Asn Glu Ile Thr Cys Tyr Glu Asn Phe Thr Asp Asn Gln Leu	
160 165 170	
gac gtg gtg ctg ccc gtg cgg ctg gag ctg tgc ctg gtg ctc ttc ttc	577
Asp Val Val Leu Pro Val Arg Leu Glu Leu Cys Leu Val Leu Phe Phe	
175 180 185	
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Ile Pro Met Ala Val Thr Ile Phe Cys Tyr Trp Arg Phe Val Trp Ile	
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Met Leu Ser Gln Pro Leu Val Gly Ala Gln Arg Arg Arg Arg Ala Val	
210 215 220	
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Gly Leu Ala Val Val Thr Leu Leu Asn Phe Leu Val Cys Phe Gly Pro	
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Tyr Asn Val Ser His Leu Val Gly Tyr His Gln Arg Lys Ser Pro Trp	
240 245 250	
tgg cgg tca ata gcc gtg gtg ttc agt tca ctc aac gcc agt ctg gac	817
Trp Arg Ser Ile Ala Val Val Phe Ser Ser Leu Asn Ala Ser Leu Asp	
255 260 265	
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Arg Gly Leu Gln Val Leu Arg Asn Gln Gly Ser Ser Leu Leu Gly Arg	
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Arg Gly Lys Asp Thr Ala Glu Gly Thr Asn Glu Asp Arg Gly Val Gly	
305 310 315	
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Leu Ser Leu Thr Leu Ala Asp Leu Leu Leu Leu Leu Leu Leu Pro Phe	
50 55 60	

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Ala	Ala	Leu	Val	Ala	Trp	Val	Met	Ser	Phe	Gly	His	Cys	Thr	Ile	Val
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Glu	Ile	Thr	Cys	Tyr	Glu	Asn	Phe	Thr	Asp	Asn	Gln	Leu	Asp	Val	Val
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		260						265					270		
Phe	Tyr	Phe	Ser	Ser	Ser	Val	Val	Arg	Arg	Ala	Phe	Gly	Arg	Gly	Leu
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 Thr Gly Phe Ser Tyr Ala Phe Pro Lys Ala Val Ser Val Phe Phe Lys
 35 40 45

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Leu Phe Ala Ser Leu Gly Met Val Ala Ala Ser Phe Cys Arg Ser Ile			
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Ile Gln Val Tyr Leu Thr Thr Gly Val Ile Thr Gly Leu Gly Leu Ala			
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Leu Asn Phe Gln Pro Ser Leu Ile Met Leu Asn Arg Tyr Phe Ser Lys			
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Arg Arg Pro Met Ala Asn Gly Leu Ala Ala Ala Gly Ser Pro Val Phe			
145 150 155			
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Leu Cys Ala Leu Ser Pro Leu Gly Gln Leu Leu Gln Asp Arg Tyr Gly			
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Trp Arg Gly Gly Phe Leu Ile Leu Gly Gly Leu Leu Leu Asn Cys Cys			
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Val Cys Ala Ala Leu Met Arg Pro Leu Val Val Thr Ala Gln Pro Gly			
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Ser Gly Pro Pro Arg Pro Ser Arg Arg Leu Leu Asp Leu Ser Val Phe			
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Phe Ile Asp Ile Phe Ala Arg Pro Ala Ala Gly Phe Val Ala Gly Leu			
275 280 285			
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Gly Lys Val Arg Pro Tyr Ser Val Tyr Leu Phe Ser Phe Ser Met Phe			
290 295 300			

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Gly Leu Val Val Phe Cys Ile Phe Phe Gly Ile Ser Tyr Gly Met Val	
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Gly Ala Leu Gln Phe Glu Val Leu Met Ala Ile Val Gly Thr His Lys	
340 345 350	
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Phe Ser Ser Ala Ile Gly Leu Val Leu Leu Met Glu Ala Val Ala Val	
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Glu Pro Gln Pro Glu Val Ala Ala Ala Glu Glu Glu Lys Leu His Lys	
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Pro Pro Ala Asp Ser Gly Val Asp Leu Arg Glu Val Glu His Phe Leu	
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Ser Val *	
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<212> PRT

<213> Homo sapiens

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Cys	Val	Asn	Arg	Phe	Gly	Cys	Arg	Pro	Val	Met	Leu	Val	Gly	Gly	Leu
				85					90					95	
Phe	Ala	Ser	Leu	Gly	Met	Val	Ala	Ala	Ser	Phe	Cys	Arg	Ser	Ile	Ile
			100					105					110		
Gln	Val	Tyr	Leu	Thr	Thr	Gly	Val	Ile	Thr	Gly	Leu	Gly	Leu	Ala	Leu
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145					150					155					160
Cys	Ala	Leu	Ser	Pro	Leu	Gly	Gln	Leu	Leu	Gln	Asp	Arg	Tyr	Gly	Trp
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Arg	Gly	Gly	Phe	Leu	Ile	Leu	Gly	Gly	Leu	Leu	Leu	Asn	Cys	Cys	Val
			180					185					190		
Cys	Ala	Ala	Leu	Met	Arg	Pro	Leu	Val	Val	Thr	Ala	Gln	Pro	Gly	Ser
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Gly	Pro	Pro	Arg	Pro	Ser	Arg	Arg	Leu	Leu	Asp	Leu	Ser	Val	Phe	Arg
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Asp	Arg	Gly	Phe	Val	Leu	Tyr	Ala	Val	Ala	Ala	Ser	Val	Met	Val	Leu
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Lys	Val	Arg	Pro	Tyr	Ser	Val	Tyr	Leu	Phe	Ser	Phe	Ser	Met	Phe	Phe
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Ile	Leu	Leu	Leu	Gly	Asn	Phe	Phe	Cys	Ile	Arg	Lys	Lys	Pro	Lys	Glu
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Pro	Gln	Pro	Glu	Val	Ala	Ala	Ala	Glu	Glu	Glu	Lys	Leu	His	Lys	Pro
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Pro	Ala	Asp	Ser	Gly	Val	Asp	Leu	Arg	Glu	Val	Glu	His	Phe	Leu	Lys
		435					440					445			
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gtt ggc tca tta caa gca tgc ttt ctt gca aag agg aat ttc cag att 154
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 Asp Val Tyr Glu Ala Arg Glu Asp Thr Arg Val Ala Thr Phe Thr Arg
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 70 75 80

aga gca aga atg atc cac tct ctt tca gga aaa aag tct gca att ccc 346
 Arg Ala Arg Met Ile His Ser Leu Ser Gly Lys Lys Ser Ala Ile Pro
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 Tyr Gly Thr Lys Ser Gln Tyr Ile Leu Ser Val Ser Arg Glu Asn Leu
 100 105 110

aac aag gat cta ttg act gct gct gag aaa tac ccc aat gtg aaa atg 442
 Asn Lys Asp Leu Leu Thr Ala Ala Glu Lys Tyr Pro Asn Val Lys Met
 115 120 125 130

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 135 140 145

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Ile Ser Ser Thr Tyr Leu Leu Ile His Tyr Met Ser Pro Arg Ser Phe
435          440          445          450

ctc tgc ttg aga aga cca tgg aac tgg ata gct cac ttc cgg aat aca 1450
Leu Cys Leu Arg Arg Pro Trp Asn Trp Ile Ala His Phe Arg Asn Thr
          455          460          465

aca tgt ttc ccc gca aag gcc gtg gac tcc cta gaa caa att tcc aat 1498
Thr Cys Phe Pro Ala Lys Ala Val Asp Ser Leu Glu Gln Ile Ser Asn
          470          475          480

ctc att agc agg tga tagaaagggtt ttgtggtagc aaatgcatga tttctctgtg 1553
Leu Ile Ser Arg *
          485

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acaaaaatta agcatgaaaa aaatgtttcc attgccatat ttgattcact agtgggaagat 1613
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ctcgcacacag cattgactca acacctagga ctaaaaaatca caacttaact agcatgttaa 1913
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<210> 32
<211> 486
<212> PRT
<213> Homo sapiens

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Gln Ile Asp Val Tyr Glu Ala Arg Glu Asp Thr Arg Val Ala Thr Phe
35     40     45
Thr Arg Gly Arg Ser Ile Asn Leu Ala Leu Ser His Arg Gly Arg Gln
50     55     60
Ala Leu Lys Ala Val Gly Leu Glu Asp Gln Ile Val Ser Gln Gly Ile
65     70     75     80
Pro Met Arg Ala Arg Met Ile His Ser Leu Ser Gly Lys Lys Ser Ala
85     90     95
Ile Pro Tyr Gly Thr Lys Ser Gln Tyr Ile Leu Ser Val Ser Arg Glu
100    105    110
Asn Leu Asn Lys Asp Leu Leu Thr Ala Ala Glu Lys Tyr Pro Asn Val
115    120    125
Lys Met His Phe Asn His Arg Leu Leu Lys Cys Asn Pro Glu Glu Gly
130    135    140
Met Ile Thr Val Leu Gly Ser Asp Lys Val Pro Lys Asp Val Thr Cys
145    150    155    160
Asp Leu Ile Val Gly Cys Asp Gly Ala Tyr Ser Thr Val Arg Ser His
165    170    175
Leu Met Lys Lys Pro Arg Phe Asp Tyr Ser Gln Gln Tyr Ile Pro His
180    185    190
Gly Tyr Met Glu Leu Thr Ile Pro Pro Lys Asn Gly Asp Tyr Ala Met
195    200    205
Glu Pro Asn Tyr Leu His Ile Trp Pro Arg Asn Thr Phe Met Met Ile
210    215    220
Ala Leu Pro Asn Met Asn Lys Ser Phe Thr Cys Thr Leu Phe Met Pro

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35	40	45	50	
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Ser Pro Ala Ser Val Tyr Val Val Lys Ile Thr Gly Glu Ser Lys Asn				
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tat ttc ttc gaa ttt gag gaa ttc aac agc act ttg cct cct cct gtt	418			
Tyr Phe Phe Glu Phe Glu Glu Phe Asn Ser Thr Leu Pro Pro Pro Val				
70 75 80				
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Ile Phe Lys Ala Ser Tyr His Gly Leu Tyr Tyr Ile Ile Thr Leu Val				
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Val Val Asn Gly Asn Val Val Thr Lys Pro Ser Arg Ser Ile Thr Val				
100 105 110				
tta aca aaa cct cta cct gta acc agt gtt tcc ata tat gac tat aaa	562			
Leu Thr Lys Pro Leu Pro Val Thr Ser Val Ser Ile Tyr Asp Tyr Lys				
115 120 125 130				
cct tct cct gaa aca gga gtc ctg ttt gaa ata cat tat cca gaa aaa	610			
Pro Ser Pro Glu Thr Gly Val Leu Phe Glu Ile His Tyr Pro Glu Lys				
135 140 145				
tat aac gtt ttc aca aga gtg aac att agc tac tgg gaa ggt aaa gac	658			
Tyr Asn Val Phe Thr Arg Val Asn Ile Ser Tyr Trp Glu Gly Lys Asp				
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Phe Arg Thr Met Leu Tyr Lys Asp Phe Phe Lys Gly Lys Thr Val Phe				
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Asn His Trp Leu Pro Gly Met Cys Tyr Ser Asn Ile Thr Phe Gln Leu				
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Val Ser Glu Ala Thr Phe Asn Lys Ser Thr Leu Val Glu Tyr Ser Gly				
195 200 205 210				
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Val Ser His Glu Pro Lys Gln His Arg Thr Ala Pro Tyr Pro Pro Gln				
215 220 225				
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Asn Ile Ser Val Arg Ile Val Asn Leu Asn Lys Asn Asn Trp Glu Glu				
230 235 240				
cag agt ggc aat ttc cca gaa gaa tcc ttc atg aga tca caa gat aca	946			
Gln Ser Gly Asn Phe Pro Glu Glu Ser Phe Met Arg Ser Gln Asp Thr				
245 250 255				
ata gga aaa gaa aaa ctc ttc cat ttt aca gaa gaa acc cct gaa att	994			
Ile Gly Lys Glu Lys Leu Phe His Phe Thr Glu Glu Thr Pro Glu Ile				
260 265 270				
ccc tcg ggc aac att tct tcc ggt tgg cct gat ttt aat agc agt gac	1042			
Pro Ser Gly Asn Ile Ser Ser Gly Trp Pro Asp Phe Asn Ser Ser Asp				
275 280 285 290				

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Tyr Glu Thr Thr Ser Gln Pro Tyr Trp Trp Asp Ser Ala Ser Ala Ala	
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Pro Glu Ser Glu Asp Glu Phe Val Ser Val Leu Pro Met Glu Tyr Glu	
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Asn Asn Ser Thr Leu Ser Glu Thr Glu Lys Ser Thr Ser Gly Ser Phe	
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Ser Phe Phe Pro Val Gln Met Ile Leu Thr Trp Leu Pro Pro Lys Pro	
340 345 350	
ccc act gct ttt gat ggg ttc cat atc cat att gaa cga gaa gag aac	1282
Pro Thr Ala Phe Asp Gly Phe His Ile His Ile Glu Arg Glu Glu Asn	
355 360 365 370	
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Phe Thr Glu Tyr Leu Met Val Asp Glu Glu Ala His Glu Phe Val Ala	
375 380 385	
gaa ctg aag gaa cct ggg aaa tat aag tta tct gtg aca acc ttt agt	1378
Glu Leu Lys Glu Pro Gly Lys Tyr Lys Leu Ser Val Thr Thr Phe Ser	
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Ser Ser Gly Ser Cys Glu Thr Arg Lys Ser Gln Ser Ala Lys Ser Leu	
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Ser Phe Tyr Ile Ser Pro Ser Gly Glu Trp Ile Glu Glu Leu Thr Glu	
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Lys Pro Gln His Val Ser Val His Val Leu Ser Ser Thr Thr Ala Leu	
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Met Ser Trp Thr Ser Ser Gln Glu Asn Tyr Asn Ser Thr Ile Val Ser	
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Pro Leu Ile Gly Pro Pro Ser Asp Pro Val Thr Phe Ala Ile Val Pro	
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Thr Gly Ile Lys Asp Leu Met Leu Tyr Pro Leu Gly Pro Thr Ala Val	
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Val Leu Ser Trp Thr Arg Pro Tyr Leu Gly Val Phe Arg Lys Tyr Val	
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Val Glu Met Phe Tyr Phe Asn Pro Ala Thr Met Thr Ser Glu Trp Thr	
565 570 575	
acc tac tat gaa ata gca gca act gtt tcc tta act gca tcc gtg aga	1954
Thr Tyr Tyr Glu Ile Ala Ala Thr Val Ser Leu Thr Ala Ser Val Arg	
580 585 590	
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Ile Ala Asn Leu Leu Pro Ala Trp Tyr Tyr Asn Phe Arg Val Thr Met	
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Val Thr Trp Gly Asp Pro Glu Leu Ser Cys Cys Asp Ser Ser Thr Ile	
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Ser Phe Ile Thr Ala Pro Val Ala Pro Glu Ile Thr Ser Val Glu Tyr	
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Phe Asn Ser Leu Leu Tyr Ile Ser Trp Thr Tyr Gly Asp Asp Thr Thr	
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Asp Leu Ser His Ser Arg Met Leu His Trp Met Val Val Ala Glu Gly	
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aaa aag aaa att aaa aag agt gta aca cgc aat gtc atg act gca att	2242
Lys Lys Lys Ile Lys Lys Ser Val Thr Arg Asn Val Met Thr Ala Ile	
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Thr Glu Arg Gly Ser Asn Thr Ser Met Leu Arg Leu Val Lys Leu Glu	
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725 730 735	
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Val Thr Leu Leu Trp Val Glu Glu Gly Val Ala Asp Phe Phe Glu Val	
740 745 750	
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Phe Cys Gln Gln Val Gly Ser Ser Gln Lys Thr Lys Leu Gln Glu Pro	
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Thr	Ala	Tyr	Asn	Cys	Ser	Val	Thr	Ser	Phe	Ser	His	Asp	Ser	Pro	Ser		
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gtc	cct	acg	ttc	ata	gcc	gtc	tca	aca	atg	gtt	aca	gag	atg	aat	ccc	2626	
Val	Pro	Thr	Phe	Ile	Ala	Val	Ser	Thr	Met	Val	Thr	Glu	Met	Asn	Pro		
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aat	gtg	gta	gtg	atc	tcc	gtg	ctg	gcc	atc	ctt	agc	aca	ctt	tta	att	2674	
Asn	Val	Val	Val	Ile	Ser	Val	Leu	Ala	Ile	Leu	Ser	Thr	Leu	Leu	Ile		
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Gly	Leu	Leu	Leu	Val	Thr	Leu	Ile	Ile	Leu	Arg	Lys	Lys	His	Leu	Gln		
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Met	Ala	Arg	Glu	Cys	Gly	Ala	Gly	Thr	Phe	Val	Asn	Phe	Ala	Ser	Leu		
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Glu	Arg	Asp	Gly	Lys	Leu	Pro	Tyr	Asn	Trp	Ser	Lys	Asn	Gly	Leu	Lys		
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Lys	Arg	Lys	Leu	Thr	Asn	Pro	Val	Gln	Leu	Asp	Asp	Phe	Asp	Ala	Tyr		
		885					890					895					
att	aag	gat	atg	gcc	aaa	gac	tct	gac	tat	aaa	ttt	tct	ctt	cag	ttt	2914	
Ile	Lys	Asp	Met	Ala	Lys	Asp	Ser	Asp	Tyr	Lys	Phe	Ser	Leu	Gln	Phe		
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gag	gag	ttg	aaa	ttg	att	gga	ctg	gat	atc	cca	cac	ttt	gct	gca	gat	2962	
Glu	Glu	Leu	Lys	Leu	Ile	Gly	Leu	Asp	Ile	Pro	His	Phe	Ala	Ala	Asp		
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ctt	cca	ctg	aat	cga	tgt	aaa	aac	cgt	tac	aca	aac	atc	cta	cca	tat	3010	
Leu	Pro	Leu	Asn	Arg	Cys	Lys	Asn	Arg	Tyr	Thr	Asn	Ile	Leu	Pro	Tyr		
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gac	ttc	agc	cgt	gtg	aga	tta	gtc	tcc	atg	aat	gaa	gag	gaa	ggt	gca	3058	
Asp	Phe	Ser	Arg	Val	Arg	Leu	Val	Ser	Met	Asn	Glu	Glu	Glu	Gly	Ala		
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gac	tac	atc	aat	gcc	aac	tat	att	cct	gga	tac	aac	tca	ccc	cag	gag	3106	
Asp	Tyr	Ile	Asn	Ala	Asn	Tyr	Ile	Pro	Gly	Tyr	Asn	Ser	Pro	Gln	Glu		
		965					970					975					
tat	att	gcc	acc	cag	ggg	cca	ctg	cct	gaa	acc	aga	aat	gac	ttc	tgg	3154	
Tyr	Ile	Ala	Thr	Gln	Gly	Pro	Leu	Pro	Glu	Thr	Arg	Asn	Asp	Phe	Trp		
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Lys	Met	Val	Leu	Gln	Gln	Lys	Ser	Gln	Ile	Ile	Val	Met	Leu	Thr	Gln		
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tgt	aat	gag	aaa	agg	agg	gtg	aaa	tgt	gac	cat	tac	tgg	cca	ttc	acg	3250	
Cys	Asn	Glu	Lys	Arg	Arg	Val	Lys	Cys	Asp	His	Tyr	Trp	Pro	Phe	Thr		

1015	1020	1025	
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Glu Glu Pro Ile Ala Tyr Gly Asp	Ile Thr Val Glu Met Ile Ser Glu		
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gaa gag cag gac gac tgg gcc tgt aga cac ttc cgg atc aac tat gct			3346
Glu Glu Gln Asp Asp Trp Ala Cys Arg His Phe Arg Ile Asn Tyr Ala			
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Asp Glu Met Gln Asp Val Met His Phe Asn Tyr Thr Ala Trp Pro Asp			
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cat ggt gtg ccc aca gca aat gct gca gaa agt atc ctg cag ttt gta			3442
His Gly Val Pro Thr Ala Asn Ala Ala Glu Ser Ile Leu Gln Phe Val			
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cac atg gtc cga cag caa gct acc aag agc aaa ggt ccc atg atc att			3490
His Met Val Arg Gln Gln Ala Thr Lys Ser Lys Gly Pro Met Ile Ile			
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His Cys Ser Ala Gly Val Gly Arg Thr Gly Thr Phe Ile Ala Leu Asp			
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Arg Leu Leu Gln His Ile Arg Asp His Glu Phe Val Asp Ile Leu Gly			
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Glu Gln Tyr Ile Phe Ile His Gln Cys Val Gln Leu Met Trp Met Lys			
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Lys Lys Gln Gln Phe Cys Ile Ser Asp Val Ile Tyr Glu Asn Val Ser			
1175	1180	1185	
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Lys Ser *			

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<210> 34

<211> 1188

<212> PRT

<213> Homo sapiens

<400> 34

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Thr Val Gln Asp Asp Asn Asn Ile Val Val Ser Leu Glu Ala Ser Asp
35          40          45
Val Ile Ser Pro Ala Ser Val Tyr Val Val Lys Ile Thr Gly Glu Ser
50          55          60
Lys Asn Tyr Phe Phe Glu Phe Glu Glu Phe Asn Ser Thr Leu Pro Pro
65          70          75          80
Pro Val Ile Phe Lys Ala Ser Tyr His Gly Leu Tyr Tyr Ile Ile Thr
85          90          95
Leu Val Val Val Asn Gly Asn Val Val Thr Lys Pro Ser Arg Ser Ile
100          105          110
Thr Val Leu Thr Lys Pro Leu Pro Val Thr Ser Val Ser Ile Tyr Asp
115          120          125
Tyr Lys Pro Ser Pro Glu Thr Gly Val Leu Phe Glu Ile His Tyr Pro
130          135          140
Glu Lys Tyr Asn Val Phe Thr Arg Val Asn Ile Ser Tyr Trp Glu Gly
145          150          155          160
Lys Asp Phe Arg Thr Met Leu Tyr Lys Asp Phe Phe Lys Gly Lys Thr
165          170          175
Val Phe Asn His Trp Leu Pro Gly Met Cys Tyr Ser Asn Ile Thr Phe
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Gln Leu Val Ser Glu Ala Thr Phe Asn Lys Ser Thr Leu Val Glu Tyr
195          200          205
Ser Gly Val Ser His Glu Pro Lys Gln His Arg Thr Ala Pro Tyr Pro
210          215          220
Pro Gln Asn Ile Ser Val Arg Ile Val Asn Leu Asn Lys Asn Asn Trp
225          230          235          240
Glu Glu Gln Ser Gly Asn Phe Pro Glu Glu Ser Phe Met Arg Ser Gln
245          250          255
Asp Thr Ile Gly Lys Glu Lys Leu Phe His Phe Thr Glu Glu Thr Pro
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Glu Ile Pro Ser Gly Asn Ile Ser Ser Gly Trp Pro Asp Phe Asn Ser
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Ser Asp Tyr Glu Thr Thr Ser Gln Pro Tyr Trp Trp Asp Ser Ala Ser
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Ala Ala Pro Glu Ser Glu Asp Glu Phe Val Ser Val Leu Pro Met Glu
305          310          315          320
Tyr Glu Asn Asn Ser Thr Leu Ser Glu Thr Glu Lys Ser Thr Ser Gly

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Asn Pro Asn Val Val Val Ile Ser Val Leu Ala Ile Leu Ser Thr Leu
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 835 840 845
 Leu Gln Met Ala Arg Glu Cys Gly Ala Gly Thr Phe Val Asn Phe Ala
 850 855 860
 Ser Leu Glu Arg Asp Gly Lys Leu Pro Tyr Asn Trp Ser Lys Asn Gly
 865 870 875 880
 Leu Lys Lys Arg Lys Leu Thr Asn Pro Val Gln Leu Asp Asp Phe Asp
 885 890 895
 Ala Tyr Ile Lys Asp Met Ala Lys Asp Ser Asp Tyr Lys Phe Ser Leu
 900 905 910
 Gln Phe Glu Glu Leu Lys Leu Ile Gly Leu Asp Ile Pro His Phe Ala
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 Ala Asp Leu Pro Leu Asn Arg Cys Lys Asn Arg Tyr Thr Asn Ile Leu
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 Pro Tyr Asp Phe Ser Arg Val Arg Leu Val Ser Met Asn Glu Glu Glu
 945 950 955 960
 Gly Ala Asp Tyr Ile Asn Ala Asn Tyr Ile Pro Gly Tyr Asn Ser Pro
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 Gln Glu Tyr Ile Ala Thr Gln Gly Pro Leu Pro Glu Thr Arg Asn Asp
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 Phe Trp Lys Met Val Leu Gln Gln Lys Ser Gln Ile Ile Val Met Leu
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Cys	Cys	Phe	Ala	Ala	Pro	Arg	Gln	Arg	Gln	Ser	Thr	Leu	Val	Leu	Phe	
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cct	gga	gac	ctg	aga	acc	aat	ctc	acc	gac	agg	cag	ctg	gca	gag	gaa	146
Pro	Gly	Asp	Leu	Arg	Thr	Asn	Leu	Thr	Asp	Arg	Gln	Leu	Ala	Glu	Glu	
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Tyr	Leu	Tyr	Arg	Tyr	Gly	Tyr	Thr	Arg	Val	Ala	Glu	Met	Arg	Gly	Glu	
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Ser	Lys	Ser	Leu	Gly	Pro	Ala	Leu	Leu	Leu	Leu	Gln	Lys	Gln	Leu	Ser	
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Leu	Pro	Glu	Thr	Gly	Glu	Leu	Asp	Ser	Ala	Thr	Leu	Lys	Ala	Met	Arg	
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Thr	Pro	Arg	Cys	Gly	Val	Pro	Asp	Leu	Gly	Arg	Phe	Gln	Thr	Phe	Glu	
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Gly	Asp	Leu	Lys	Trp	His	His	His	Asn	Ile	Thr	Tyr	Trp	Ile	Gln	Asn	
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Tyr	Ser	Glu	Asp	Leu	Pro	Arg	Ala	Val	Ile	Asp	Asp	Ala	Phe	Ala	Arg	
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Tyr	Ser	Arg	Asp	Ala	Asp	Ile	Val	Ile	Gln	Phe	Gly	Val	Ala	Glu	His	
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gga	gac	ggg	tat	ccc	ttc	gac	ggg	aag	gac	ggg	ctc	ctg	gca	cac	gcc	578
Gly	Asp	Gly	Tyr	Pro	Phe	Asp	Gly	Lys	Asp	Gly	Leu	Leu	Ala	His	Ala	
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Asn	Ala	Asp	Gly	Ala	Ala	Cys	His	Phe	Pro	Phe	Ile	Phe	Glu	Gly	Arg	
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Ser	Tyr	Ser	Ala	Cys	Thr	Thr	Asp	Gly	Arg	Ser	Asp	Gly	Leu	Pro	Trp	

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Cys	Ser	Thr	Thr	Ala	Asn	Tyr	Asp	Thr	Asp	Asp	Arg	Phe	Gly	Phe	Cys	
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ccc	agc	gag	aga	ctc	tac	acc	cgg	gac	ggc	aat	gct	gat	ggg	aaa	ccc	866
Pro	Ser	Glu	Arg	Leu	Tyr	Thr	Arg	Asp	Gly	Asn	Ala	Asp	Gly	Lys	Pro	
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Cys	Gln	Phe	Pro	Phe	Ile	Phe	Gln	Gly	Gln	Ser	Tyr	Ser	Ala	Cys	Thr	
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Thr	Asp	Gly	Arg	Ser	Asp	Gly	Tyr	Arg	Trp	Cys	Ala	Thr	Thr	Ala	Asn	
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Tyr	Asp	Arg	Asp	Lys	Leu	Phe	Gly	Phe	Cys	Pro	Thr	Arg	Ala	Asp	Ser	
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Thr	Val	Met	Gly	Gly	Asn	Ser	Ala	Gly	Glu	Leu	Cys	Val	Phe	Pro	Phe	
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Asp	Gly	Arg	Leu	Trp	Cys	Ala	Thr	Thr	Ser	Asn	Phe	Asp	Ser	Asp	Lys	
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Lys	Trp	Gly	Phe	Cys	Pro	Asp	Gln	Gly	Tyr	Ser	Leu	Phe	Leu	Val	Ala	
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Glu	Ala	Leu	Met	Tyr	Pro	Met	Tyr	Arg	Phe	Thr	Glu	Gly	Pro	Pro	Leu	
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His	Lys	Asp	Asp	Val	Asn	Gly	Ile	Arg	His	Leu	Tyr	Gly	Pro	Arg	Pro	
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Glu	Pro	Glu	Pro	Arg	Pro	Pro	Thr	Thr	Thr	Thr	Pro	Gln	Pro	Thr	Ala	
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Arg	Pro	Thr	Ala	Gly	Pro	Thr	Gly	Pro	Pro	Ser	Ala	Gly	Pro	Thr	Gly	
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Val	Asp	Asp	Ala	Cys	Asn	Val	Asn	Ile	Phe	Asp	Ala	Ile	Ala	Glu	Ile	
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Gly	Asn	Gln	Leu	Tyr	Leu	Phe	Lys	Asp	Gly	Lys	Tyr	Trp	Arg	Phe	Ser	
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Glu	Gly	Arg	Gly	Ser	Arg		Gln	Gly	Pro	Phe	Leu	Ile	Ala	Asp	Lys	
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Trp	Pro	Ala	Leu	Pro	Arg	Lys	Leu	Asp	Ser	Val	Phe	Glu	Glu	Pro	Leu	
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Ser	Lys	Lys	Leu	Phe	Phe	Phe	Ser	Gly	Arg	Gln	Val	Trp	Val	Tyr	Thr	
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ggc	gcg	tcg	gtg	ctg	ggc	ccg	agg	cgt	ctg	gac	aag	ctg	ggc	ctg	gga	1826
Gly	Ala	Ser	Val	Leu	Gly	Pro	Arg	Arg	Leu	Asp	Lys	Leu	Gly	Leu	Gly	
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gcc	gac	gtg	gcc	cag	gtg	acc	ggg	gcc	ctc	cgg	agt	ggc	agg	ggg	aag	1874
Ala	Asp	Val	Ala	Gln	Val	Thr	Gly	Ala	Leu	Arg	Ser	Gly	Arg	Gly	Lys	
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atg	ctg	ctg	ttc	agc	ggg	cgg	cgc	ctc	tgg	agg	ttc	gac	gtg	aag	gcg	1922
Met	Leu	Leu	Phe	Ser	Gly	Arg	Arg	Leu	Trp	Arg	Phe	Asp	Val	Lys	Ala	
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Gln	Met	Val	Asp	Pro	Arg	Ser	Ala	Ser	Glu	Val	Asp	Arg	Met	Phe	Pro	
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Gly	Val	Pro	Leu	Asp	Thr	His	Asp	Val	Phe	Gln	Tyr	Arg	Glu	Lys	Ala	
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Tyr	Phe	Cys	Gln	Asp	Arg	Phe	Tyr	Trp	Arg	Val	Ser	Ser	Arg	Ser	Glu	
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Leu	Asn	Gln	Val	Asp	Gln	Val	Gly	Tyr	Val	Thr	Tyr	Asp	Ile	Leu	Gln	
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Cys	Pro	Glu	Asp	*												
	705															
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2373

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 Leu Tyr Arg Tyr Gly Tyr Thr Arg Val Ala Glu Met Arg Gly Glu Ser
 50 55 60
 Lys Ser Leu Gly Pro Ala Leu Leu Leu Leu Gln Lys Gln Leu Ser Leu
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 Pro Glu Thr Gly Glu Leu Asp Ser Ala Thr Leu Lys Ala Met Arg Thr
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 Pro Arg Cys Gly Val Pro Asp Leu Gly Arg Phe Gln Thr Phe Glu Gly
 100 105 110
 Asp Leu Lys Trp His His His Asn Ile Thr Tyr Trp Ile Gln Asn Tyr
 115 120 125
 Ser Glu Asp Leu Pro Arg Ala Val Ile Asp Asp Ala Phe Ala Arg Ala
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 Phe Ala Leu Trp Ser Ala Val Thr Pro Leu Thr Phe Thr Arg Val Tyr
 145 150 155 160
 Ser Arg Asp Ala Asp Ile Val Ile Gln Phe Gly Val Ala Glu His Gly
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 Asp Gly Tyr Pro Phe Asp Gly Lys Asp Gly Leu Leu Ala His Ala Phe
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 Pro Pro Gly Pro Gly Ile Gln Gly Asp Ala His Phe Asp Asp Asp Glu
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 Leu Trp Ser Leu Gly Lys Gly Val Val Val Pro Thr Arg Phe Gly Asn
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 Tyr Ser Ala Cys Thr Thr Asp Gly Arg Ser Asp Gly Leu Pro Trp Cys
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 Ser Thr Thr Ala Asn Tyr Asp Thr Asp Asp Arg Phe Gly Phe Cys Pro
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 Ser Glu Arg Leu Tyr Thr Arg Asp Gly Asn Ala Asp Gly Lys Pro Cys
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 Gln Phe Pro Phe Ile Phe Gln Gly Gln Ser Tyr Ser Ala Cys Thr Thr
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 Asp Gly Arg Ser Asp Gly Tyr Arg Trp Cys Ala Thr Thr Ala Asn Tyr
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 Asp Arg Asp Lys Leu Phe Gly Phe Cys Pro Thr Arg Ala Asp Ser Thr
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 Gly Arg Leu Trp Cys Ala Thr Thr Ser Asn Phe Asp Ser Asp Lys Lys
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 Trp Gly Phe Cys Pro Asp Gln Gly Tyr Ser Leu Phe Leu Val Ala Ala
 385 390 395 400
 His Glu Phe Gly His Ala Leu Gly Leu Asp His Ser Ser Val Pro Glu
 405 410 415
 Ala Leu Met Tyr Pro Met Tyr Arg Phe Thr Glu Gly Pro Pro Leu His

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Lys Arg Cys Gly Gly Phe Leu Ile Gln Asp Asp Phe Val Leu Thr Ala	
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gct cac tgt tgg gga agc tcc ata aat gtc acc ttg ggg gcc cac aat	241
Ala His Cys Trp Gly Ser Ser Ile Asn Val Thr Leu Gly Ala His Asn	
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Ile Lys Glu Gln Glu Pro Thr Gln Gln Phe Ile Pro Val Lys Arg Pro	
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Ile Pro His Pro Ala Tyr Asn Pro Lys Asn Phe Ser Asn Asp Ile Met	
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Leu Arg Leu Pro Ser Asn Lys Ala Gln Val Lys Pro Gly Gln Thr Cys	
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Ser Val Ala Gly Trp Gly Gln Thr Ala Pro Leu Gly Lys His Ser His	
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Thr Leu Gln Glu Val Lys Met Thr Val Gln Glu Asp Arg Lys Cys Glu	
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Ser Asp Leu Arg His Tyr Tyr Asp Ser Thr Ile Glu Leu Cys Val Gly	
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Asp Pro Glu Ile Lys Lys Thr Ser Phe Lys Gly Asp Ser Gly Gly Pro	
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Asn Gly Met Pro Pro Arg Ala Cys Thr Lys Val Ser Ser Phe Val His	
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Trp Ile Lys Lys Thr Met Lys Arg Tyr *	
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Cys Trp Gly Ser Ser Ile Asn Val Thr Leu Gly Ala His Asn Ile Lys
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Glu Gln Glu Pro Thr Gln Gln Phe Ile Pro Val Lys Arg Pro Ile Pro
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His Pro Ala Tyr Asn Pro Lys Asn Phe Ser Asn Asp Ile Met Leu Leu
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Gln Leu Glu Arg Lys Ala Lys Arg Thr Arg Ala Val Gln Pro Leu Arg
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Gln Glu Val Lys Met Thr Val Gln Glu Asp Arg Lys Cys Glu Ser Asp
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Leu Arg His Tyr Tyr Asp Ser Thr Ile Glu Leu Cys Val Gly Asp Pro
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Glu Ile Lys Lys Thr Ser Phe Lys Gly Asp Ser Gly Gly Pro Leu Val
195    200    205
Cys Asn Lys Val Ala Gln Gly Ile Val Ser Tyr Gly Arg Asn Asn Gly
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<211> 1853

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<400> 39

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Val Phe Gln Tyr Glu Thr Asn Lys Val Thr Arg Ile Gln Ser Met Asn
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Tyr Gly Thr Ile Lys Trp Phe Phe His Val Ile Ile Phe Ser Tyr Val
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Cys Phe Ala Leu Val Ser Asp Lys Leu Tyr Gln Arg Lys Glu Pro Val
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Glu Ile Val Glu Asn Gly Val Lys Lys Leu Val His Ser Val Phe Asp	
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acc gca gac tac acc ttc cct ttg cag ggg aac tct ttc ttc gtg atg	341
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Tyr Pro Thr Arg Arg Thr Leu Cys Ser Ser Asp Arg Gly Cys Lys Lys	
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Gly Trp Met Asp Pro Gln Ser Lys Gly Ile Gln Thr Gly Arg Cys Val	
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Ile Glu Ala Val Glu Glu Ala Pro Arg Pro Ala Leu Leu Asn Ser Ala	
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gaa aac ttc act gtg ctc atc aag aac aat atc gac ttc ccc ggc cac	629
Glu Asn Phe Thr Val Leu Ile Lys Asn Asn Ile Asp Phe Pro Gly His	
190 195 200	
aac tac acc acg aga aac atc ctg cca ggt tta aac atc act tgt acc	677
Asn Tyr Thr Thr Arg Asn Ile Leu Pro Gly Leu Asn Ile Thr Cys Thr	
205 210 215	
ttc cac aag act cag aat cca cag tgt ccc att ttc cga cta gga gac	725
Phe His Lys Thr Gln Asn Pro Gln Cys Pro Ile Phe Arg Leu Gly Asp	
220 225 230	
atc ttc cga gaa aca ggc gat aat ttt tca gat gtg gca att cag ggc	773
Ile Phe Arg Glu Thr Gly Asp Asn Phe Ser Asp Val Ala Ile Gln Gly	
235 240 245	
gga ata atg ggc att gag atc tac tgg gac tgc aac cta gac cgt tgg	821
Gly Ile Met Gly Ile Glu Ile Tyr Trp Asp Cys Asn Leu Asp Arg Trp	
250 255 260 265	
ttc cat cac tgc cat ccc aaa tac agt ttc cgt cgc ctt gac gac aag	869
Phe His His Cys His Pro Lys Tyr Ser Phe Arg Arg Leu Asp Asp Lys	
270 275 280	
acc acc aac gtg tcc ttg tac cct ggc tac aac ttc aga tac gcc aag	917
Thr Thr Asn Val Ser Leu Tyr Pro Gly Tyr Asn Phe Arg Tyr Ala Lys	
285 290 295	
tac tac aag gaa aac aat gtt gag aaa cgg act ctg ata aaa gtc ttc	965

Tyr	Tyr	Lys	Glu	Asn	Asn	Val	Glu	Lys	Arg	Thr	Leu	Ile	Lys	Val	Phe	
		300					305					310				
ggg	atc	cgt	ttt	gac	atc	ctg	gtt	ttt	ggc	acc	gga	gga	aaa	ttt	gac	1013
Gly	Ile	Arg	Phe	Asp	Ile	Leu	Val	Phe	Gly	Thr	Gly	Gly	Lys	Phe	Asp	
	315					320					325					
att	atc	cag	ctg	gtt	gtg	tac	atc	ggc	tca	acc	ctc	tcc	tac	ttc	ggt	1061
Ile	Ile	Gln	Leu	Val	Val	Tyr	Ile	Gly	Ser	Thr	Leu	Ser	Tyr	Phe	Gly	
330					335					340					345	
ctg	gcc	gct	gtg	ttc	atc	gac	ttc	ctc	atc	gac	act	tac	tcc	agt	aac	1109
Leu	Ala	Ala	Val	Phe	Ile	Asp	Phe	Leu	Ile	Asp	Thr	Tyr	Ser	Ser	Asn	
				350					355					360		
tgc	tgt	cgc	tcc	cat	att	tat	ccc	tgg	tgc	aag	tgc	tgt	cag	ccc	tgt	1157
Cys	Cys	Arg	Ser	His	Ile	Tyr	Pro	Trp	Cys	Lys	Cys	Cys	Gln	Pro	Cys	
		365						370					375			
gtg	gtc	aac	gaa	tac	tac	tac	agg	aag	aag	tgc	gag	tcc	att	gtg	gag	1205
Val	Val	Asn	Glu	Tyr	Tyr	Tyr	Arg	Lys	Lys	Cys	Glu	Ser	Ile	Val	Glu	
		380					385					390				
cca	aag	ccg	aca	tta	aag	tat	gtg	tcc	ttt	gtg	gat	gaa	tcc	cac	att	1253
Pro	Lys	Pro	Thr	Leu	Lys	Tyr	Val	Ser	Phe	Val	Asp	Glu	Ser	His	Ile	
	395					400					405					
agg	atg	gtg	aac	cag	cag	cta	cta	ggg	aga	agt	ctg	caa	gat	gtc	aag	1301
Arg	Met	Val	Asn	Gln	Gln	Leu	Leu	Gly	Arg	Ser	Leu	Gln	Asp	Val	Lys	
410				415					420						425	
ggc	caa	gaa	gtc	cca	aga	cct	gcg	atg	gac	ttc	aca	gat	ttg	tcc	agg	1349
Gly	Gln	Glu	Val	Pro	Arg	Pro	Ala	Met	Asp	Phe	Thr	Asp	Leu	Ser	Arg	
				430					435				440			
ctg	ccc	ctg	gcc	ctc	cat	gac	aca	ccc	ccg	att	cct	gga	caa	cca	gag	1397
Leu	Pro	Leu	Ala	Leu	His	Asp	Thr	Pro	Pro	Ile	Pro	Gly	Gln	Pro	Glu	
			445					450					455			
gag	ata	cag	ctg	ctt	aga	aag	gag	gcg	act	cct	aga	tcc	agg	gat	agc	1445
Glu	Ile	Gln	Leu	Leu	Arg	Lys	Glu	Ala	Thr	Pro	Arg	Ser	Arg	Asp	Ser	
		460					465					470				
ccc	gtc	tgg	tgc	cag	tgt	gga	agc	tgc	ctc	cca	tct	caa	ctc	cct	gag	1493
Pro	Val	Trp	Cys	Gln	Cys	Gly	Ser	Cys	Leu	Pro	Ser	Gln	Leu	Pro	Glu	
	475					480					485					
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Ser	His	Arg	Cys	Leu	Glu	Glu	Leu	Cys	Cys	Arg	Lys	Lys	Pro	Gly	Ala	
490				495						500					505	
tgc	atc	acc	acc	tca	gag	ctg	ttc	agg	aag	ctg	gtc	ctg	tcc	aga	cac	1589
Cys	Ile	Thr	Thr	Ser	Glu	Leu	Phe	Arg	Lys	Leu	Val	Leu	Ser	Arg	His	
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gtc	ctg	cag	ttc	ctc	ctg	ctc	tac	cag	gag	ccc	ttg	ctg	gcg	ctg	gat	1637
Val	Leu	Gln	Phe	Leu	Leu	Leu	Tyr	Gln	Glu	Pro	Leu	Leu	Ala	Leu	Asp	
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gtg	gat	tcc	acc	aac	agc	cgg	ctg	cgg	cac	tgt	gcc	tac	agg	tgc	tac	1685
Val	Asp	Ser	Thr	Asn	Ser	Arg	Leu	Arg	His	Cys	Ala	Tyr	Arg	Cys	Tyr	

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gcc acc tgg cgc ttc ggc tcc cag gac atg gct gac ttt gcc atc ctg			1733
Ala Thr Trp Arg Phe Gly Ser Gln Asp Met Ala Asp Phe Ala Ile Leu			
555	560	565	
ccc agc tgc tgc cgc tgg agg atc cgg aaa gag ttt ccg aag agt gaa			1781
Pro Ser Cys Cys Arg Trp Arg Ile Arg Lys Glu Phe Pro Lys Ser Glu			
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ggg cag tac agt ggc ttc aag agt cct tac tga agccaggcac cgtggctcac			1834
Gly Gln Tyr Ser Gly Phe Lys Ser Pro Tyr *			
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Phe His Val Ile Ile Phe Ser Tyr Val Cys Phe Ala Leu Val Ser Asp			
35 40 45			
Lys Leu Tyr Gln Arg Lys Glu Pro Val Ile Ser Ser Val His Thr Lys			
50 55 60			
Val Lys Gly Ile Ala Glu Val Lys Glu Glu Ile Val Glu Asn Gly Val			
65 70 75 80			
Lys Lys Leu Val His Ser Val Phe Asp Thr Ala Asp Tyr Thr Phe Pro			
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Gly Gln Glu Gln Arg Leu Cys Pro Glu Tyr Pro Thr Arg Arg Thr Leu			
115 120 125			
Cys Ser Ser Asp Arg Gly Cys Lys Lys Gly Trp Met Asp Pro Gln Ser			
130 135 140			
Lys Gly Ile Gln Thr Gly Arg Cys Val Val His Glu Gly Asn Gln Lys			
145 150 155 160			
Thr Cys Glu Val Ser Ala Trp Cys Pro Ile Glu Ala Val Glu Glu Ala			
165 170 175			
Pro Arg Pro Ala Leu Leu Asn Ser Ala Glu Asn Phe Thr Val Leu Ile			
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Lys Asn Asn Ile Asp Phe Pro Gly His Asn Tyr Thr Thr Arg Asn Ile			
195 200 205			
Leu Pro Gly Leu Asn Ile Thr Cys Thr Phe His Lys Thr Gln Asn Pro			
210 215 220			
Gln Cys Pro Ile Phe Arg Leu Gly Asp Ile Phe Arg Glu Thr Gly Asp			
225 230 235 240			
Asn Phe Ser Asp Val Ala Ile Gln Gly Gly Ile Met Gly Ile Glu Ile			
245 250 255			
Tyr Trp Asp Cys Asn Leu Asp Arg Trp Phe His His Cys His Pro Lys			
260 265 270			
Tyr Ser Phe Arg Arg Leu Asp Asp Lys Thr Thr Asn Val Ser Leu Tyr			
275 280 285			
Pro Gly Tyr Asn Phe Arg Tyr Ala Lys Tyr Tyr Lys Glu Asn Asn Val			
290 295 300			
Glu Lys Arg Thr Leu Ile Lys Val Phe Gly Ile Arg Phe Asp Ile Leu			

305					310					315				320
Val	Phe	Gly	Thr	Gly	Gly	Lys	Phe	Asp	Ile	Ile	Gln	Leu	Val	Val
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Ile	Gly	Ser	Thr	Leu	Ser	Tyr	Phe	Gly	Leu	Ala	Ala	Val	Phe	Ile
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Phe	Leu	Ile	Asp	Thr	Tyr	Ser	Ser	Asn	Cys	Cys	Arg	Ser	His	Ile
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Pro	Trp	Cys	Lys	Cys	Cys	Gln	Pro	Cys	Val	Val	Asn	Glu	Tyr	Tyr
	370					375					380			
Arg	Lys	Lys	Cys	Glu	Ser	Ile	Val	Glu	Pro	Lys	Pro	Thr	Leu	Lys
385					390					395				400
Val	Ser	Phe	Val	Asp	Glu	Ser	His	Ile	Arg	Met	Val	Asn	Gln	Gln
				405					410					415
Leu	Gly	Arg	Ser	Leu	Gln	Asp	Val	Lys	Gly	Gln	Glu	Val	Pro	Arg
			420					425					430	
Ala	Met	Asp	Phe	Thr	Asp	Leu	Ser	Arg	Leu	Pro	Leu	Ala	Leu	His
		435					440					445		
Thr	Pro	Pro	Ile	Pro	Gly	Gln	Pro	Glu	Glu	Ile	Gln	Leu	Leu	Arg
	450					455					460			
Glu	Ala	Thr	Pro	Arg	Ser	Arg	Asp	Ser	Pro	Val	Trp	Cys	Gln	Cys
465					470					475				480
Ser	Cys	Leu	Pro	Ser	Gln	Leu	Pro	Glu	Ser	His	Arg	Cys	Leu	Glu
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Leu	Cys	Cys	Arg	Lys	Lys	Pro	Gly	Ala	Cys	Ile	Thr	Thr	Ser	Glu
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Phe	Arg	Lys	Leu	Val	Leu	Ser	Arg	His	Val	Leu	Gln	Phe	Leu	Leu
	515						520					525		
Tyr	Gln	Glu	Pro	Leu	Leu	Ala	Leu	Asp	Val	Asp	Ser	Thr	Asn	Ser
	530					535					540			
Leu	Arg	His	Cys	Ala	Tyr	Arg	Cys	Tyr	Ala	Thr	Trp	Arg	Phe	Gly
545					550					555				560
Gln	Asp	Met	Ala	Asp	Phe	Ala	Ile	Leu	Pro	Ser	Cys	Cys	Arg	Trp
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Ile	Arg	Lys	Glu	Phe	Pro	Lys	Ser	Glu	Gly	Gln	Tyr	Ser	Gly	Phe
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Ser	Pro	Tyr												
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 caac atg cag ccc tcc ggc ctc gag ggt ccc ggc acg ttt ggt cgg tgg 169
 Met Gln Pro Ser Gly Leu Glu Gly Pro Gly Thr Phe Gly Arg Trp
 1 5 10 15

 cct ctg ctg agt ctg ctg ctc ctg ctg ctg ctg ctc cag cct gta acc 217
 Pro Leu Leu Ser Leu Leu Leu Leu Leu Leu Leu Gln Pro Val Thr
 20 25 30

 tgt gcc tac acc acg cca ggc ccc ccc aga gcc ctc acc acg ctg ggc 265

Cys	Ala	Tyr	Thr	Thr	Pro	Gly	Pro	Pro	Arg	Ala	Leu	Thr	Thr	Leu	Gly	
			35					40					45			
gcc	ccc	aga	gcc	cac	acc	atg	ccg	ggc	acc	tac	gct	ccc	tcg	acc	aca	313
Ala	Pro	Arg	Ala	His	Thr	Met	Pro	Gly	Thr	Tyr	Ala	Pro	Ser	Thr	Thr	
		50					55					60				
ctc	agt	agt	ccc	agc	acc	cag	ggc	ctg	caa	gag	cag	gca	cgg	gcc	ctg	361
Leu	Ser	Ser	Pro	Ser	Thr	Gln	Gly	Leu	Gln	Glu	Gln	Ala	Arg	Ala	Leu	
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atg	cgg	gac	ttc	ccg	ctc	gtg	gac	ggc	cac	aac	gac	ctg	ccc	ctg	gtc	409
Met	Arg	Asp	Phe	Pro	Leu	Val	Asp	Gly	His	Asn	Asp	Leu	Pro	Leu	Val	
80					85					90					95	
cta	agg	cag	gtt	tac	cag	aaa	ggg	cta	cag	gat	gtt	aac	ctg	cgc	aat	457
Leu	Arg	Gln	Val	Tyr	Gln	Lys	Gly	Leu	Gln	Asp	Val	Asn	Leu	Arg	Asn	
			100						105					110		
ttc	agc	tac	ggc	cag	acc	agc	ctg	gac	agg	ctt	aga	gat	ggc	ctc	gtg	505
Phe	Ser	Tyr	Gly	Gln	Thr	Ser	Leu	Asp	Arg	Leu	Arg	Asp	Gly	Leu	Val	
			115					120					125			
ggc	gcc	cag	ttc	tgg	tca	gcc	tat	gtg	cca	tgc	cag	acc	cag	gac	cgg	553
Gly	Ala	Gln	Phe	Trp	Ser	Ala	Tyr	Val	Pro	Cys	Gln	Thr	Gln	Asp	Arg	
		130					135					140				
gat	gcc	ctg	cgc	ctc	acc	ctg	gag	cag	att	gac	ctc	ata	cgc	cgc	atg	601
Asp	Ala	Leu	Arg	Leu	Thr	Leu	Glu	Gln	Ile	Asp	Leu	Ile	Arg	Arg	Met	
	145					150					155					
tgt	gcc	tcc	tat	tct	gag	ctg	gag	ctt	gtg	acc	tcg	gct	aaa	gct	ctg	649
Cys	Ala	Ser	Tyr	Ser	Glu	Leu	Glu	Leu	Val	Thr	Ser	Ala	Lys	Ala	Leu	
160					165					170					175	
aac	gac	act	cag	aaa	ttg	gcc	tgc	ctc	atc	ggt	gta	gag	ggt	ggc	cac	697
Asn	Asp	Thr	Gln	Lys	Leu	Ala	Cys	Leu	Ile	Gly	Val	Glu	Gly	Gly	His	
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tcg	ctg	gac	aat	agc	ctc	tcc	atc	tta	cgt	acc	ttc	tac	atg	ctg	gga	745
Ser	Leu	Asp	Asn	Ser	Leu	Ser	Ile	Leu	Arg	Thr	Phe	Tyr	Met	Leu	Gly	
			195					200					205			
gtg	cgc	tac	ctg	acg	ctc	acc	cac	acc	tgc	aac	aca	ccc	tgg	gca	gag	793
Val	Arg	Tyr	Leu	Thr	Leu	Thr	His	Thr	Cys	Asn	Thr	Pro	Trp	Ala	Glu	
		210					215					220				
agc	tcc	gct	aag	ggc	gtc	cac	tcc	ttc	tac	aac	aac	atc	agc	ggg	ctg	841
Ser	Ser	Ala	Lys	Gly	Val	His	Ser	Phe	Tyr	Asn	Asn	Ile	Ser	Gly	Leu	
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Thr	Asp	Phe	Gly	Glu	Lys	Val	Val	Ala	Glu	Met	Asn	Arg	Leu	Gly	Met	
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atg	gta	gac	tta	tcc	cat	gtc	tca	gat	gct	gtg	gca	cgg	cgg	gcc	ctg	937
Met	Val	Asp	Leu	Ser	His	Val	Ser	Asp	Ala	Val	Ala	Arg	Arg	Ala	Leu	
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gaa	gtg	tca	cag	gca	cct	gtg	atc	ttc	tcc	cac	tcg	gct	gcc	cgg	ggt	985
Glu	Val	Ser	Gln	Ala	Pro	Val	Ile	Phe	Ser	His	Ser	Ala	Ala	Arg	Gly	

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gtg	tgc	aac	agt	gct	cgg	aat	gtt	cct	gat	gac	atc	ctg	cag	ctt	ctg	1033				
Val	Cys	Asn	Ser	Ala	Arg	Asn	Val	Pro	Asp	Asp	Ile	Leu	Gln	Leu	Leu					
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aag	aag	aac	ggt	ggc	gtc	gtg	atg	gtg	tct	ttg	tcc	atg	gga	gta	ata	1081				
Lys	Lys	Asn	Gly	Gly	Val	Val	Met	Val	Ser	Leu	Ser	Met	Gly	Val	Ile					
		305				310						315								
cag	tgc	aac	cca	tca	gcc	aat	gtg	tcc	act	gtg	gca	gat	cac	ttc	gac	1129				
Gln	Cys	Asn	Pro	Ser	Ala	Asn	Val	Ser	Thr	Val	Ala	Asp	His	Phe	Asp					
320				325						330				335						
cac	atc	aag	gct	gtc	att	gga	tcc	aag	ttc	atc	ggg	att	ggt	gga	gat	1177				
His	Ile	Lys	Ala	Val	Ile	Gly	Ser	Lys	Phe	Ile	Gly	Ile	Gly	Gly	Asp					
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tat	gat	ggg	gcc	ggc	aaa	ttc	cct	cag	ggg	ctg	gaa	gac	gtg	tcc	aca	1225				
Tyr	Asp	Gly	Ala	Gly	Lys	Phe	Pro	Gln	Gly	Leu	Glu	Asp	Val	Ser	Thr					
		355						360						365						
tac	ccg	gtc	ctg	ata	gag	gag	ttg	ctg	agt	cgt	ggc	tgg	agt	gag	gaa	1273				
Tyr	Pro	Val	Leu	Ile	Glu	Glu	Leu	Leu	Ser	Arg	Gly	Trp	Ser	Glu	Glu					
		370				375						380								
gag	ctt	cag	ggt	gtc	ctt	cgt	gga	aac	ctg	ctg	cgg	gtc	ttc	aga	caa	1321				
Glu	Leu	Gln	Gly	Val	Leu	Arg	Gly	Asn	Leu	Leu	Arg	Val	Phe	Arg	Gln					
385						390						395								
gtg	gaa	aag	gta	cag	gaa	gaa	aac	aaa	tgg	caa	agc	ccc	ttg	gag	gac	1369				
Val	Glu	Lys	Val	Gln	Glu	Glu	Asn	Lys	Trp	Gln	Ser	Pro	Leu	Glu	Asp					
400				405						410				415						
aag	ttc	ccg	gat	gag	cag	ctg	agc	agt	tcc	tgc	cac	tcc	gac	ctc	tca	1417				
Lys	Phe	Pro	Asp	Glu	Gln	Leu	Ser	Ser	Ser	Cys	His	Ser	Asp	Leu	Ser					
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cgt	ctg	cgt	cag	aga	cag	agt	ctg	act	tca	ggc	cag	gaa	ctc	act	gag	1465				
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		435						440						445						
att	ccc	ata	cac	tgg	aca	gcc	aag	tta	cca	gcc	aag	tgg	tca	gtc	tca	1513				
Ile	Pro	Ile	His	Trp	Thr	Ala	Lys	Leu	Pro	Ala	Lys	Trp	Ser	Val	Ser					
		450				455						460								
gag	tcc	tcc	ccc	cac	atg	gcc	cca	gtc	ctt	gca	gtt	gtg	gcc	acc	ttc	1561				
Glu	Ser	Ser	Pro	His	Met	Ala	Pro	Val	Leu	Ala	Val	Val	Ala	Thr	Phe					
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cca	gtc	ctt	att	ctg	tgg	ctc	tga	tgacccagtt	agtcctgcc	gatgtcactg						1615				
Pro	Val	Leu	Ile	Leu	Trp	Leu	*													
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Ala	Tyr	Thr	Thr	Pro	Gly	Pro	Pro	Arg	Ala	Leu	Thr	Thr	Leu	Gly	Ala
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Arg	Asp	Phe	Pro	Leu	Val	Asp	Gly	His	Asn	Asp	Leu	Pro	Leu	Val	Leu
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Arg	Gln	Val	Tyr	Gln	Lys	Gly	Leu	Gln	Asp	Val	Asn	Leu	Arg	Asn	Phe
			100					105						110	
Ser	Tyr	Gly	Gln	Thr	Ser	Leu	Asp	Arg	Leu	Arg	Asp	Gly	Leu	Val	Gly
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Ala	Gln	Phe	Trp	Ser	Ala	Tyr	Val	Pro	Cys	Gln	Thr	Gln	Asp	Arg	Asp
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Ala	Leu	Arg	Leu	Thr	Leu	Glu	Gln	Ile	Asp	Leu	Ile	Arg	Arg	Met	Cys
145					150					155					160
Ala	Ser	Tyr	Ser	Glu	Leu	Glu	Leu	Val	Thr	Ser	Ala	Lys	Ala	Leu	Asn
				165					170					175	
Asp	Thr	Gln	Lys	Leu	Ala	Cys	Leu	Ile	Gly	Val	Glu	Gly	Gly	His	Ser
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Leu	Asp	Asn	Ser	Leu	Ser	Ile	Leu	Arg	Thr	Phe	Tyr	Met	Leu	Gly	Val
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Arg	Tyr	Leu	Thr	Leu	Thr	His	Thr	Cys	Asn	Thr	Pro	Trp	Ala	Glu	Ser
		210				215					220				
Ser	Ala	Lys	Gly	Val	His	Ser	Phe	Tyr	Asn	Asn	Ile	Ser	Gly	Leu	Thr
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Asp	Phe	Gly	Glu	Lys	Val	Val	Ala	Glu	Met	Asn	Arg	Leu	Gly	Met	Met
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Val	Asp	Leu	Ser	His	Val	Ser	Asp	Ala	Val	Ala	Arg	Arg	Ala	Leu	Glu
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Val	Ser	Gln	Ala	Pro	Val	Ile	Phe	Ser	His	Ser	Ala	Ala	Arg	Gly	Val
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Cys	Asn	Ser	Ala	Arg	Asn	Val	Pro	Asp	Asp	Ile	Leu	Gln	Leu	Leu	Lys
					295						300				
Lys	Asn	Gly	Gly	Val	Val	Met	Val	Ser	Leu	Ser	Met	Gly	Val	Ile	Gln
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Cys	Asn	Pro	Ser	Ala	Asn	Val	Ser	Thr	Val	Ala	Asp	His	Phe	Asp	His
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Ile	Lys	Ala	Val	Ile	Gly	Ser	Lys	Phe	Ile	Gly	Ile	Gly	Gly	Asp	Tyr
			340					345					350		
Asp	Gly	Ala	Gly	Lys	Phe	Pro	Gln	Gly	Leu	Glu	Asp	Val	Ser	Thr	Tyr
		355					360					365			
Pro	Val	Leu	Ile	Glu	Glu	Leu	Leu	Ser	Arg	Gly	Trp	Ser	Glu	Glu	Glu
		370				375					380				
Leu	Gln	Gly	Val	Leu	Arg	Gly	Asn	Leu	Leu	Arg	Val	Phe	Arg	Gln	Val
385					390					395					400
Glu	Lys	Val	Gln	Glu	Glu	Asn	Lys	Trp	Gln	Ser	Pro	Leu	Glu	Asp	Lys
				405					410					415	
Phe	Pro	Asp	Glu	Gln	Leu	Ser	Ser	Ser	Cys	His	Ser	Asp	Leu	Ser	Arg
			420					425					430		
Leu	Arg	Gln	Arg	Gln	Ser	Leu	Thr	Ser	Gly	Gln	Glu	Leu	Thr	Glu	Ile
			435				440					445			
Pro	Ile	His	Trp	Thr	Ala	Lys	Leu	Pro	Ala	Lys	Trp	Ser	Val	Ser	Glu
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Ser	Ser	Pro	His	Met	Ala	Pro	Val	Leu	Ala	Val	Val	Ala	Thr	Phe	Pro

atc ctt gta gat gac tac agt gat aga gag cac ctg aag gag cgc ttg Ile Leu Val Asp Asp Tyr Ser Asp Arg Glu His Leu Lys Glu Arg Leu 175 180 185	641
gcc aat gag ctt tcg gga ctg ccc aag gtg cgc ctg atc cgc gcc aac Ala Asn Glu Leu Ser Gly Leu Pro Lys Val Arg Leu Ile Arg Ala Asn 190 195 200	689
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gct gtg agt aag aaa tat ttt gaa tat ctg ggg tct tat gat aca gga Ala Val Ser Lys Lys Tyr Phe Glu Tyr Leu Gly Ser Tyr Asp Thr Gly 320 325 330	1073
atg gaa gtt tgg gga gga gaa aac ctc gaa ttt tcc ttt agg atc tgg Met Glu Val Trp Gly Gly Glu Asn Leu Glu Phe Ser Phe Arg Ile Trp 335 340 345	1121
cag tgt ggt ggg gtt ctg gaa aca cac cca tgt tcc cat gtt ggc cat Gln Cys Gly Gly Val Leu Glu Thr His Pro Cys Ser His Val Gly His 350 355 360	1169
gtt ttc ccc aag caa gct ccc tac tcc cgc aac aag gct ctg gcc aac Val Phe Pro Lys Gln Ala Pro Tyr Ser Arg Asn Lys Ala Leu Ala Asn 365 370 375	1217
agt gtt cgt gca gct gaa gta tgg atg gat gaa ttt aaa gag ctc tac Ser Val Arg Ala Ala Glu Val Trp Met Asp Glu Phe Lys Glu Leu Tyr 380 385 390 395	1265
tac cat cgc aac ccc cgt gcc cgc ttg gaa cct ttt ggg gat gtg aca Tyr His Arg Asn Pro Arg Ala Arg Leu Glu Pro Phe Gly Asp Val Thr 400 405 410	1313
gag agg aag cag ctc cgg gac aag ctc cag tgt aaa gac ttc aag tgg	1361

Glu	Arg	Lys	Gln	Leu	Arg	Asp	Lys	Leu	Gln	Cys	Lys	Asp	Phe	Lys	Trp	
			415					420					425			
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Phe	Leu	Glu	Thr	Val	Tyr	Pro	Glu	Leu	His	Val	Pro	Glu	Asp	Arg	Pro	
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Gly	Phe	Phe	Gly	Met	Leu	Gln	Asn	Lys	Gly	Leu	Thr	Asp	Tyr	Cys	Phe	
	445					450					455					
gac	tat	aac	cct	ccc	gat	gaa	aac	cag	att	gtg	gga	cac	cag	gtc	att	1505
Asp	Tyr	Asn	Pro	Pro	Asp	Glu	Asn	Gln	Ile	Val	Gly	His	Gln	Val	Ile	
460					465					470					475	
ctg	tac	ctc	tgt	cat	ggg	atg	ggc	cag	aat	cag	ttt	ttc	gag	tac	acg	1553
Leu	Tyr	Leu	Cys	His	Gly	Met	Gly	Gln	Asn	Gln	Phe	Phe	Glu	Tyr	Thr	
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Phe	His	Glu	Gln	Ser	Lys	Lys	Cys	Val	Gln	Ala	Ala	Arg	Lys	Glu	Ser	
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Ser	Asp	Ser	Phe	Val	Pro	Leu	Leu	Arg	Asp	Cys	Thr	Asn	Ser	Asp	His	
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Gln	Lys	Trp	Phe	Phe	Lys	Glu	Arg	Met	Leu	*						
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<210> 44
 <211> 581
 <212> PRT
 <213> Homo sapiens

<400> 44

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Glu	Pro	Gly	Pro	Pro	Arg	Thr	Pro	Arg	Pro	Gly	Arg	Arg	Glu	Pro	Val
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Ala	Val	Arg	Leu	Gln	Leu	Gln	Gly	Glu	Glu	Leu	Arg	Leu	Gln	Glu	Glu
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Ser	Val	Arg	Leu	His	Gln	Ile	Asn	Ile	Tyr	Leu	Ser	Asp	Arg	Ile	Ser
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Lys	Tyr	Asp	Tyr	Asp	Asn	Leu	Pro	Arg	Thr	Ser	Val	Ile	Ile	Ala	Phe
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Tyr	Asn	Glu	Ala	Trp	Ser	Thr	Leu	Leu	Arg	Thr	Val	Tyr	Ser	Val	Leu
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Glu	Thr	Ser	Pro	Asp	Ile	Leu	Leu	Glu	Glu	Val	Ile	Leu	Val	Asp	Asp
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Tyr	Ser	Asp	Arg	Glu	His	Leu	Lys	Glu	Arg	Leu	Ala	Asn	Glu	Leu	Ser
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Gly	Leu	Pro	Lys	Val	Arg	Leu	Ile	Arg	Ala	Asn	Lys	Arg	Glu	Gly	Leu
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Val	Arg	Ala	Arg	Leu	Leu	Gly	Ala	Ser	Ala	Ala	Arg	Gly	Asp	Val	Leu
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Thr	Phe	Leu	Asp	Cys	His	Cys	Glu	Cys	His	Glu	Gly	Trp	Leu	Glu	Pro
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Leu	Leu	Gln	Arg	Ile	His	Glu	Glu	Glu	Ser	Ala	Val	Val	Cys	Pro	Val
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Tyr	Phe	Glu	Tyr	Leu	Gly	Ser	Tyr	Asp	Thr	Gly	Met	Glu	Val	Trp	Gly
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Gly	Glu	Asn	Leu	Glu	Phe	Ser	Phe	Arg	Ile	Trp	Gln	Cys	Gly	Gly	Val
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Leu	Glu	Thr	His	Pro	Cys	Ser	His	Val	Gly	His	Val	Phe	Pro	Lys	Gln
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Ala	Pro	Tyr	Ser	Arg	Asn	Lys	Ala	Leu	Ala	Asn	Ser	Val	Arg	Ala	Ala
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Glu	Val	Trp	Met	Asp	Glu	Phe	Lys	Glu	Leu	Tyr	Tyr	His	Arg	Asn	Pro
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Arg	Ala	Arg	Leu	Glu	Pro	Phe	Gly	Asp	Val	Thr	Glu	Arg	Lys	Gln	Leu
				405					410					415	
Arg	Asp	Lys	Leu	Gln	Cys	Lys	Asp	Phe	Lys	Trp	Phe	Leu	Glu	Thr	Val
			420					425					430		
Tyr	Pro	Glu	Leu	His	Val	Pro	Glu	Asp	Arg	Pro	Gly	Phe	Phe	Gly	Met

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Phe Lys Leu Pro Phe Tyr Val Gly Ala Gln Phe Leu Gly Ala Phe Val	
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ggg gct gca acc gtc ttt ggc att tac tat gat gga ctt atg tcc ttt	621
Gly Ala Ala Thr Val Phe Gly Ile Tyr Tyr Asp Gly Leu Met Ser Phe	
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Ala Gly Gly Lys Leu Leu Ile Val Gly Glu Asn Ala Thr Ala His Ile	
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ttt gca aca tac cca gct ccg tat cta tct ctg gcg aac gca ttt gca	717
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Asp Gln Val Val Ala Thr Met Ile Leu Leu Ile Ile Val Phe Ala Ile	
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Phe Asp Ser Arg Asn Leu Gly Ala Pro Arg Gly Leu Glu Pro Ile Ala	
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atc ggc ctc ctg att att gtc att gct tcc tcc ctg gga ctg aac agt	861
Ile Gly Leu Leu Ile Ile Val Ile Ala Ser Ser Leu Gly Leu Asn Ser	
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ggc tgt gcc atg aac cca gct cga gac ctg agt ccc aga ctt ttc act	909
Gly Cys Ala Met Asn Pro Ala Arg Asp Leu Ser Pro Arg Leu Phe Thr	
215 220 225	
gcc ttg gca ggc tgg ggg ttt gaa gtc ttc aga gct gga aac aac ttc	957
Ala Leu Ala Gly Trp Gly Phe Glu Val Phe Arg Ala Gly Asn Asn Phe	
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tgg tgg att cct gta gtg ggc cct ttg gtt ggt gct gtc att gga ggc	1005
Trp Trp Ile Pro Val Val Gly Pro Leu Val Gly Ala Val Ile Gly Gly	
245 250 255	
ctc atc tat gtt ctt gtc att gaa atc cac cat cca gag cct gac tca	1053
Leu Ile Tyr Val Leu Val Ile Glu Ile His His Pro Glu Pro Asp Ser	
260 265 270 275	
gtc ttt aag gca gaa caa tct gag gac aaa cca gag aaa tat gaa ctc	1101
Val Phe Lys Ala Glu Gln Ser Glu Asp Lys Pro Glu Lys Tyr Glu Leu	
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Ser Val Ile Met *	
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<210> 46

<211> 295

<212> PRT

<213> Homo sapiens

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Thr Phe Ile Leu Ile Val Leu Gly Cys Gly Cys Val Ala Gln Ala Ile
 35          40          45
Leu Ser Arg Gly Arg Phe Gly Gly Val Ile Thr Ile Asn Val Gly Phe
 50          55          60
Ser Met Ala Val Ala Met Ala Ile Tyr Val Ala Gly Gly Val Ser Gly
 65          70          75          80
Gly His Ile Asn Pro Ala Val Ser Leu Ala Met Cys Leu Phe Gly Arg
 85          90          95
Met Lys Trp Phe Lys Leu Pro Phe Tyr Val Gly Ala Gln Phe Leu Gly
100          105          110
Ala Phe Val Gly Ala Ala Thr Val Phe Gly Ile Tyr Tyr Asp Gly Leu
115          120          125
Met Ser Phe Ala Gly Gly Lys Leu Leu Ile Val Gly Glu Asn Ala Thr
130          135          140
Ala His Ile Phe Ala Thr Tyr Pro Ala Pro Tyr Leu Ser Leu Ala Asn
145          150          155          160
Ala Phe Ala Asp Gln Val Val Ala Thr Met Ile Leu Leu Ile Ile Val
165          170          175
Phe Ala Ile Phe Asp Ser Arg Asn Leu Gly Ala Pro Arg Gly Leu Glu
180          185          190
Pro Ile Ala Ile Gly Leu Leu Ile Ile Val Ile Ala Ser Ser Leu Gly
195          200          205
Leu Asn Ser Gly Cys Ala Met Asn Pro Ala Arg Asp Leu Ser Pro Arg
210          215          220
Leu Phe Thr Ala Leu Ala Gly Trp Gly Phe Glu Val Phe Arg Ala Gly
225          230          235          240
Asn Asn Phe Trp Trp Ile Pro Val Val Gly Pro Leu Val Gly Ala Val
245          250          255
Ile Gly Gly Leu Ile Tyr Val Leu Val Ile Glu Ile His His Pro Glu

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	290					295											

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 <212> DNA
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<220>
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Gly	Cys	Ala	Phe	Val	Leu	Phe	Leu	Phe	Leu	Leu	His	Arg	Asp	Val	Ser		
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Ser	Arg	Glu	Glu	Ala	Thr	Glu	Lys	Pro	Trp	Leu	Lys	Ser	Leu	Val	Ser		
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Arg	Asp	Ser	Met	Pro	Lys	Leu	Gln	Ile	Arg	Ala	Pro	Glu	Ala	Gln	Gln		
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Thr	Leu	Phe	Ser	Ile	Asn	Gln	Ser	Cys	Leu	Pro	Gly	Phe	Tyr	Thr	Pro		
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Ala	Glu	Leu	Lys	Pro	Phe	Trp	Glu	Arg	Pro	Pro	Gln	Asp	Pro	Asn	Ala		
			100					105					110				
cct	ggg	gca	gat	gga	aaa	gca	ttt	cag	aag	agc	aag	tgg	acc	ccc	ctg	384	
Pro	Gly	Ala	Asp	Gly	Lys	Ala	Phe	Gln	Lys	Ser	Lys	Trp	Thr	Pro	Leu		
		115					120					125					
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	130					135					140						
ttt	gcc	agc	gac	cgg	atc	tcc	ctg	cag	agg	tcc	ctg	ggg	cca	gac	acc	480	
Phe	Ala	Ser	Asp	Arg	Ile	Ser	Leu	Gln	Arg	Ser	Leu	Gly	Pro	Asp	Thr		
145					150				155						160		
cga	cca	cct	gag	tgt	gtg	gac	cag	aag	ttc	cgg	cgc	tgc	ccc	cca	ctg	528	
Arg	Pro	Pro	Glu	Cys	Val	Asp	Gln	Lys	Phe	Arg	Arg	Cys	Pro	Pro	Leu		
				165					170						175		

gcc acc acc agc gtg atc att gtg ttc cac aac gaa gcc tgg tcc aca	576
Ala Thr Thr Ser Val Ile Ile Val Phe His Asn Glu Ala Trp Ser Thr	
180 185 190	
ctg ctg cga aca gtg tac agc gtc cta cac acc acc cct gcc atc ttg	624
Leu Leu Arg Thr Val Tyr Ser Val Leu His Thr Thr Pro Ala Ile Leu	
195 200 205	
ctc aag gag atc ata ctg gtg gat gat gcc agc aca gag gag cac cta	672
Leu Lys Glu Ile Ile Leu Val Asp Asp Ala Ser Thr Glu Glu His Leu	
210 215 220	
aag gag aag ctg gag cag tac gtg aag cag ctg cag gtg gtg agg gtg	720
Lys Glu Lys Leu Glu Gln Tyr Val Lys Gln Leu Gln Val Val Arg Val	
225 230 235 240	
gtg cgg cag gag gag cgg aag ggg ttg atc acc gcc cgg ctg ctg ggg	768
Val Arg Gln Glu Glu Arg Lys Gly Leu Ile Thr Ala Arg Leu Leu Gly	
245 250 255	
gcc agc gtg gca cag gcg gag gtg ctc acg ttc ctg gat gcc cac tgt	816
Ala Ser Val Ala Gln Ala Glu Val Leu Thr Phe Leu Asp Ala His Cys	
260 265 270	
gag tgc ttc cac ggc tgg ctg gag ccc ctc ctg gct cga atc gct gag	864
Glu Cys Phe His Gly Trp Leu Glu Pro Leu Leu Ala Arg Ile Ala Glu	
275 280 285	
gac aag aca gtg gtg gtg agc cca gac atc gtc acc atc gac ctt aat	912
Asp Lys Thr Val Val Val Ser Pro Asp Ile Val Thr Ile Asp Leu Asn	
290 295 300	
act ttt gag ttc gcc aag ccc gtc cag agg ggc aga gtc cat agc cga	960
Thr Phe Glu Phe Ala Lys Pro Val Gln Arg Gly Arg Val His Ser Arg	
305 310 315 320	
ggc aac ttt gac tgg agc ctg acc ttc ggc tgg gaa aca ctt cct cca	1008
Gly Asn Phe Asp Trp Ser Leu Thr Phe Gly Trp Glu Thr Leu Pro Pro	
325 330 335	
cat gag aag cag agg cgc aag gat gaa aca tac ccc atc aaa tcc ccg	1056
His Glu Lys Gln Arg Arg Lys Asp Glu Thr Tyr Pro Ile Lys Ser Pro	
340 345 350	
acg ttt gct ggt ggc ctc ttc tcc atc ccc aag tcc tac ttt gag cac	1104
Thr Phe Ala Gly Gly Leu Phe Ser Ile Pro Lys Ser Tyr Phe Glu His	
355 360 365	
atc ggt acc tat gat aat cag atg gag atc tgg gga ggg gag aac gtg	1152
Ile Gly Thr Tyr Asp Asn Gln Met Glu Ile Trp Gly Gly Glu Asn Val	
370 375 380	
gaa atg tcc ttc cgg gtg tgg cag tgt ggg ggc cag ctg gag atc atc	1200
Glu Met Ser Phe Arg Val Trp Gln Cys Gly Gly Gln Leu Glu Ile Ile	
385 390 395 400	
ccc tgc tct gtc gta ggc cat gtg ttc cgg acc aag agc ccc cac acc	1248
Pro Cys Ser Val Val Gly His Val Phe Arg Thr Lys Ser Pro His Thr	
405 410 415	
ttc ccc aag ggc act agt gtc att gct cgc aat caa gtg cgc ctg gca	1296

Phe	Pro	Lys	Gly	Thr	Ser	Val	Ile	Ala	Arg	Asn	Gln	Val	Arg	Leu	Ala		
			420					425					430				
gag	gtc	tgg	atg	gac	agc	tac	aag	aag	att	ttc	tat	agg	aga	aat	ctg	1344	
Glu	Val	Trp	Met	Asp	Ser	Tyr	Lys	Lys	Ile	Phe	Tyr	Arg	Arg	Asn	Leu		
		435					440					445					
cag	gca	gca	aag	atg	gcc	caa	gag	aaa	tcc	ttc	ggg	gac	att	tcg	gaa	1392	
Gln	Ala	Ala	Lys	Met	Ala	Gln	Glu	Lys	Ser	Phe	Gly	Asp	Ile	Ser	Glu		
	450					455					460						
cga	ctg	cag	ctg	agg	gaa	caa	ctg	cac	tgt	cac	aac	ttt	tcc	tgg	tac	1440	
Arg	Leu	Gln	Leu	Arg	Glu	Gln	Leu	His	Cys	His	Asn	Phe	Ser	Trp	Tyr		
465					470					475					480		
ctg	cac	aat	gtc	tac	cca	gag	atg	ttt	gtt	cct	gac	ctg	acg	ccc	acc	1488	
Leu	His	Asn	Val	Tyr	Pro	Glu	Met	Phe	Val	Pro	Asp	Leu	Thr	Pro	Thr		
			485						490					495			
ttc	tat	ggg	gcc	atc	aag	aac	ctc	ggc	acc	aac	caa	tgc	ctg	gat	gtg	1536	
Phe	Tyr	Gly	Ala	Ile	Lys	Asn	Leu	Gly	Thr	Asn	Gln	Cys	Leu	Asp	Val		
		500						505					510				
ggg	gag	aac	aac	cgc	ggg	ggg	aag	ccc	ctc	atc	atg	tac	tcc	tgc	cac	1584	
Gly	Glu	Asn	Asn	Arg	Gly	Gly	Lys	Pro	Leu	Ile	Met	Tyr	Ser	Cys	His		
		515					520					525					
ggc	ctt	ggc	ggc	aac	cag	tac	ttt	gag	tac	aca	act	cag	agg	gac	ctt	1632	
Gly	Leu	Gly	Gly	Asn	Gln	Tyr	Phe	Glu	Tyr	Thr	Thr	Gln	Arg	Asp	Leu		
	530					535					540						
cgc	cac	aac	atc	gca	aag	cag	ctg	tgt	cta	cat	gtc	agc	aag	ggg	gct	1680	
Arg	His	Asn	Ile	Ala	Lys	Gln	Leu	Cys	Leu	His	Val	Ser	Lys	Gly	Ala		
545					550					555					560		
ctg	ggc	ctt	ggg	agc	tgt	cac	ttc	act	ggc	aag	aat	agc	cag	gtc	ccc	1728	
Leu	Gly	Leu	Gly	Ser	Cys	His	Phe	Thr	Gly	Lys	Asn	Ser	Gln	Val	Pro		
				565					570					575			
aag	gac	gag	gaa	tgg	gaa	ttg	gcc	cag	gat	cag	ctc	atc	agg	aac	tca	1776	
Lys	Asp	Glu	Glu	Trp	Glu	Leu	Ala	Gln	Asp	Gln	Leu	Ile	Arg	Asn	Ser		
			580					585					590				
gga	tct	ggg	acc	tgc	ctg	aca	tcc	cag	gac	aaa	aag	cca	gcc	atg	gcc	1824	
Gly	Ser	Gly	Thr	Cys	Leu	Thr	Ser	Gln	Asp	Lys	Lys	Pro	Ala	Met	Ala		
		595					600					605					
ccc	tgc	aat	ccc	agt	gac	ccc	cat	cag	ttg	tgg	ctc	ttt	gtc	tag		1869	
Pro	Cys	Asn	Pro	Ser	Asp	Pro	His	Gln	Leu	Trp	Leu	Phe	Val	*			
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<210> 48

<211> 622

<212> PRT

<213> Homo sapiens

<400> 48

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			20					25					30		
Ser	Arg	Glu	Glu	Ala	Thr	Glu	Lys	Pro	Trp	Leu	Lys	Ser	Leu	Val	Ser
		35					40					45			
Arg	Lys	Asp	His	Val	Leu	Asp	Leu	Met	Leu	Glu	Ala	Met	Asn	Asn	Leu
	50					55					60				
Arg	Asp	Ser	Met	Pro	Lys	Leu	Gln	Ile	Arg	Ala	Pro	Glu	Ala	Gln	Gln
65					70					75					80
Thr	Leu	Phe	Ser	Ile	Asn	Gln	Ser	Cys	Leu	Pro	Gly	Phe	Tyr	Thr	Pro
				85					90					95	
Ala	Glu	Leu	Lys	Pro	Phe	Trp	Glu	Arg	Pro	Pro	Gln	Asp	Pro	Asn	Ala
			100					105					110		
Pro	Gly	Ala	Asp	Gly	Lys	Ala	Phe	Gln	Lys	Ser	Lys	Trp	Thr	Pro	Leu
		115					120					125			
Glu	Thr	Gln	Glu	Lys	Glu	Glu	Gly	Tyr	Lys	Lys	His	Cys	Phe	Asn	Ala
		130				135					140				
Phe	Ala	Ser	Asp	Arg	Ile	Ser	Leu	Gln	Arg	Ser	Leu	Gly	Pro	Asp	Thr
145					150					155					160
Arg	Pro	Pro	Glu	Cys	Val	Asp	Gln	Lys	Phe	Arg	Arg	Cys	Pro	Pro	Leu
				165					170						175
Ala	Thr	Thr	Ser	Val	Ile	Ile	Val	Phe	His	Asn	Glu	Ala	Trp	Ser	Thr
			180					185					190		
Leu	Leu	Arg	Thr	Val	Tyr	Ser	Val	Leu	His	Thr	Thr	Pro	Ala	Ile	Leu
		195					200					205			
Leu	Lys	Glu	Ile	Ile	Leu	Val	Asp	Asp	Ala	Ser	Thr	Glu	Glu	His	Leu
	210					215					220				
Lys	Glu	Lys	Leu	Glu	Gln	Tyr	Val	Lys	Gln	Leu	Gln	Val	Val	Arg	Val
225					230					235					240
Val	Arg	Gln	Glu	Glu	Arg	Lys	Gly	Leu	Ile	Thr	Ala	Arg	Leu	Leu	Gly
				245					250					255	
Ala	Ser	Val	Ala	Gln	Ala	Glu	Val	Leu	Thr	Phe	Leu	Asp	Ala	His	Cys
			260					265					270		
Glu	Cys	Phe	His	Gly	Trp	Leu	Glu	Pro	Leu	Leu	Ala	Arg	Ile	Ala	Glu
		275					280					285			
Asp	Lys	Thr	Val	Val	Val	Ser	Pro	Asp	Ile	Val	Thr	Ile	Asp	Leu	Asn
	290					295					300				
Thr	Phe	Glu	Phe	Ala	Lys	Pro	Val	Gln	Arg	Gly	Arg	Val	His	Ser	Arg
305					310					315					320
Gly	Asn	Phe	Asp	Trp	Ser	Leu	Thr	Phe	Gly	Trp	Glu	Thr	Leu	Pro	Pro
				325					330					335	
His	Glu	Lys	Gln	Arg	Arg	Lys	Asp	Glu	Thr	Tyr	Pro	Ile	Lys	Ser	Pro
			340					345					350		
Thr	Phe	Ala	Gly	Gly	Leu	Phe	Ser	Ile	Pro	Lys	Ser	Tyr	Phe	Glu	His
		355				360						365			
Ile	Gly	Thr	Tyr	Asp	Asn	Gln	Met	Glu	Ile	Trp	Gly	Gly	Glu	Asn	Val
	370					375					380				
Glu	Met	Ser	Phe	Arg	Val	Trp	Gln	Cys	Gly	Gly	Gln	Leu	Glu	Ile	Ile
385					390					395					400
Pro	Cys	Ser	Val	Val	Gly	His	Val	Phe	Arg	Thr	Lys	Ser	Pro	His	Thr
				405					410					415	
Phe	Pro	Lys	Gly	Thr	Ser	Val	Ile	Ala	Arg	Asn	Gln	Val	Arg	Leu	Ala
			420					425					430		
Glu	Val	Trp	Met	Asp	Ser	Tyr	Lys	Lys	Ile	Phe	Tyr	Arg	Arg	Asn	Leu
		435					440					445			
Gln	Ala	Ala	Lys	Met	Ala	Gln	Glu	Lys	Ser	Phe	Gly	Asp	Ile	Ser	Glu
	450					455					460				
Arg	Leu	Gln	Leu	Arg	Glu	Gln	Leu	His	Cys	His	Asn	Phe	Ser	Trp	Tyr
465					470					475					480
Leu	His	Asn	Val	Tyr	Pro	Glu	Met	Phe	Val	Pro	Asp	Leu	Thr	Pro	Thr
			485						490					495	
Phe	Tyr	Gly	Ala	Ile	Lys	Asn	Leu	Gly	Thr	Asn	Gln	Cys	Leu	Asp	Val

Thr	Tyr	Pro	Ser	Met	Cys	Ala	Leu	Arg	Ala	Glu	Asn	Arg	Ala	Ala	Arg	
			125					130					135			
cgc	ctg	ggc	aag	gtc	ccg	gcc	gtg	cct	gtg	cag	tgg	ggg	aac	tgc	ggg	545
Arg	Leu	Gly	Lys	Val	Pro	Ala	Val	Pro	Val	Gln	Trp	Gly	Asn	Cys	Gly	
		140					145					150				
gat	aca	ggg	acc	aga	agc	gca	ggc	ccg	ctc	agg	agg	aat	tac	aac	ttc	593
Asp	Thr	Gly	Thr	Arg	Ser	Ala	Gly	Pro	Leu	Arg	Arg	Asn	Tyr	Asn	Phe	
	155					160					165					
atc	gcc	gcg	gtg	gtg	gag	aag	gtg	gcg	cca	tgc	gtg	gtt	cac	gtg	cag	641
Ile	Ala	Ala	Val	Val	Glu	Lys	Val	Ala	Pro	Ser	Val	Val	His	Val	Gln	
170					175					180					185	
ctg	tgg	ggc	agg	tta	ctt	cac	ggc	agc	agg	ctt	gtt	cct	gtg	tac	agt	689
Leu	Trp	Gly	Arg	Leu	Leu	His	Gly	Ser	Arg	Leu	Val	Pro	Val	Tyr	Ser	
			190						195					200		
ggc	tct	ggg	ttc	ata	gtg	tct	gag	gac	ggg	ctc	att	att	acc	aat	gcc	737
Gly	Ser	Gly	Phe	Ile	Val	Ser	Glu	Asp	Gly	Leu	Ile	Ile	Thr	Asn	Ala	
			205					210					215			
cat	gtt	gtc	agg	aac	cag	cag	tgg	att	gag	gtg	gtg	ctc	cag	aat	ggg	785
His	Val	Val	Arg	Asn	Gln	Gln	Trp	Ile	Glu	Val	Val	Leu	Gln	Asn	Gly	
		220					225					230				
gcc	cgt	tat	gaa	gct	gtt	gtc	aag	gat	att	gac	ctt	aaa	ttg	gat	ctt	833
Ala	Arg	Tyr	Glu	Ala	Val	Val	Lys	Asp	Ile	Asp	Leu	Lys	Leu	Asp	Leu	
	235					240					245					
gcg	gtg	att	aag	att	gaa	tca	aat	gct	gaa	ctt	cct	gta	ctg	atg	ctg	881
Ala	Val	Ile	Lys	Ile	Glu	Ser	Asn	Ala	Glu	Leu	Pro	Val	Leu	Met	Leu	
250					255					260					265	
gga	aga	tca	tct	gac	ctt	cgg	gct	gga	gag	ttt	gtg	gtg	gct	ttg	ggc	929
Gly	Arg	Ser	Ser	Asp	Leu	Arg	Ala	Gly	Glu	Phe	Val	Val	Ala	Leu	Gly	
			270						275					280		
agc	cca	ttt	tct	ctg	cag	aac	aca	gct	act	gca	gga	att	gtc	agc	acc	977
Ser	Pro	Phe	Ser	Leu	Gln	Asn	Thr	Ala	Thr	Ala	Gly	Ile	Val	Ser	Thr	
			285					290					295			
aaa	cag	cga	ggg	ggc	aaa	gaa	ctg	ggg	atg	aag	gat	tca	gat	atg	gac	1025
Lys	Gln	Arg	Gly	Gly	Lys	Glu	Leu	Gly	Met	Lys	Asp	Ser	Asp	Met	Asp	
		300					305					310				
tac	gtc	cag	att	gat	gcc	aca	att	aac	tat	ggg	aat	tct	ggt	ggt	cct	1073
Tyr	Val	Gln	Ile	Asp	Ala	Thr	Ile	Asn	Tyr	Gly	Asn	Ser	Gly	Gly	Pro	
	315				320						325					
ctg	gtg	aac	ttg	gat	ggt	gat	gtg	att	ggc	gtc	aat	tca	ttg	agg	gtg	1121
Leu	Val	Asn	Leu	Asp	Gly	Asp	Val	Ile	Gly	Val	Asn	Ser	Leu	Arg	Val	
330					335					340					345	
act	gat	gga	atc	tcc	ttt	gca	att	cct	tca	gat	cga	gtt	agg	cag	ttc	1169
Thr	Asp	Gly	Ile	Ser	Phe	Ala	Ile	Pro	Ser	Asp	Arg	Val	Arg	Gln	Phe	
			350					355					360			
ttg	gca	gaa	tac	cat	gag	cac	cag	atg	aaa	gga	aag	gcg	ttt	tca	aat	1217
Leu	Ala	Glu	Tyr	His	Glu	His	Gln	Met	Lys	Gly	Lys	Ala	Phe	Ser	Asn	

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aag aaa tat ctg ggt ctg caa atg ctg tcc ctc act gtg ccc ctt agt			1265
Lys Lys Tyr Leu Gly Leu Gln Met Leu Ser Leu Thr Val Pro Leu Ser			
380	385	390	
gaa gaa ttg aaa atg cat tat cca gat ttc cct gat gtg agt tct ggg			1313
Glu Glu Leu Lys Met His Tyr Pro Asp Phe Pro Asp Val Ser Ser Gly			
395	400	405	
gtt tat gta tgt aaa gtg gtt gaa gga aca gct gct caa agc tct gga			1361
Val Tyr Val Cys Lys Val Val Glu Gly Thr Ala Ala Gln Ser Ser Gly			
410	415	420	425
ttg aga gat cac gat gta att gtc aac ata aat ggg aaa cct att act			1409
Leu Arg Asp His Asp Val Ile Val Asn Ile Asn Gly Lys Pro Ile Thr			
430	435	440	
act aca act gat gtt gtt aaa gct ctt gac agt gat tcc ctt tcc atg			1457
Thr Thr Thr Asp Val Val Lys Ala Leu Asp Ser Asp Ser Leu Ser Met			
445	450	455	
gct gtt ctt cgg gga aaa gat aat ttg ctc ctg aca gtc ata cct gaa			1505
Ala Val Leu Arg Gly Lys Asp Asn Leu Leu Leu Thr Val Ile Pro Glu			
460	465	470	
aca atc aat taa atatcttggt ttaaagtggg cttatct			1544
Thr Ile Asn *			
475			

<210> 50
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 <212> PRT
 <213> Homo sapiens

<400> 50

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		20						25				30			
Lys	Leu	His	Thr	Gln	Pro	Ser	Cys	Pro	Ala	Val	Cys	Gln	Pro	Thr	Arg
		35					40					45			
Cys	Pro	Ala	Leu	Pro	Thr	Cys	Ala	Leu	Gly	Thr	Thr	Pro	Val	Phe	Asp
	50					55				60					
Leu	Cys	Arg	Cys	Cys	Arg	Val	Cys	Pro	Ala	Ala	Glu	Arg	Glu	Val	Cys
65					70					75					80
Gly	Gly	Ala	Gln	Gly	Gln	Pro	Cys	Ala	Pro	Gly	Leu	Gln	Cys	Leu	Gln
			85					90					95		
Pro	Leu	Arg	Pro	Gly	Phe	Pro	Ser	Thr	Cys	Gly	Cys	Pro	Thr	Leu	Gly
			100					105					110		
Gly	Ala	Val	Cys	Gly	Ser	Asp	Arg	Thr	Tyr	Pro	Ser	Met	Cys	Ala	
		115					120				125				
Leu	Arg	Ala	Glu	Asn	Arg	Ala	Ala	Arg	Arg	Leu	Gly	Lys	Val	Pro	Ala
		130				135					140				
Val	Pro	Val	Gln	Trp	Gly	Asn	Cys	Gly	Asp	Thr	Gly	Thr	Arg	Ser	Ala
145					150					155					160
Gly	Pro	Leu	Arg	Arg	Asn	Tyr	Asn	Phe	Ile	Ala	Ala	Val	Val	Glu	Lys
			165					170						175	
Val	Ala	Pro	Ser	Val	Val	His	Val	Gln	Leu	Trp	Gly	Arg	Leu	Leu	His
			180					185					190		

Gly	Ser	Arg	Leu	Val	Pro	Val	Tyr	Ser	Gly	Ser	Gly	Phe	Ile	Val	Ser
		195					200					205			
Glu	Asp	Gly	Leu	Ile	Ile	Thr	Asn	Ala	His	Val	Val	Arg	Asn	Gln	Gln
		210					215					220			
Trp	Ile	Glu	Val	Val	Leu	Gln	Asn	Gly	Ala	Arg	Tyr	Glu	Ala	Val	Val
		225				230					235				240
Lys	Asp	Ile	Asp	Leu	Lys	Leu	Asp	Leu	Ala	Val	Ile	Lys	Ile	Glu	Ser
			245						250					255	
Asn	Ala	Glu	Leu	Pro	Val	Leu	Met	Leu	Gly	Arg	Ser	Ser	Asp	Leu	Arg
			260						265				270		
Ala	Gly	Glu	Phe	Val	Val	Ala	Leu	Gly	Ser	Pro	Phe	Ser	Leu	Gln	Asn
		275					280					285			
Thr	Ala	Thr	Ala	Gly	Ile	Val	Ser	Thr	Lys	Gln	Arg	Gly	Gly	Lys	Glu
		290				295					300				
Leu	Gly	Met	Lys	Asp	Ser	Asp	Met	Asp	Tyr	Val	Gln	Ile	Asp	Ala	Thr
		305				310				315					320
Ile	Asn	Tyr	Gly	Asn	Ser	Gly	Gly	Pro	Leu	Val	Asn	Leu	Asp	Gly	Asp
			325					330						335	
Val	Ile	Gly	Val	Asn	Ser	Leu	Arg	Val	Thr	Asp	Gly	Ile	Ser	Phe	Ala
			340					345					350		
Ile	Pro	Ser	Asp	Arg	Val	Arg	Gln	Phe	Leu	Ala	Glu	Tyr	His	Glu	His
		355					360					365			
Gln	Met	Lys	Gly	Lys	Ala	Phe	Ser	Asn	Lys	Lys	Tyr	Leu	Gly	Leu	Gln
		370				375					380				
Met	Leu	Ser	Leu	Thr	Val	Pro	Leu	Ser	Glu	Glu	Leu	Lys	Met	His	Tyr
		385			390					395					400
Pro	Asp	Phe	Pro	Asp	Val	Ser	Ser	Gly	Val	Tyr	Val	Cys	Lys	Val	Val
			405						410					415	
Glu	Gly	Thr	Ala	Ala	Gln	Ser	Ser	Gly	Leu	Arg	Asp	His	Asp	Val	Ile
			420					425					430		
Val	Asn	Ile	Asn	Gly	Lys	Pro	Ile	Thr	Thr	Thr	Thr	Asp	Val	Val	Lys
		435					440					445			
Ala	Leu	Asp	Ser	Asp	Ser	Leu	Ser	Met	Ala	Val	Leu	Arg	Gly	Lys	Asp
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Asn	Leu	Leu	Leu	Thr	Val	Ile	Pro	Glu	Thr	Ile	Asn				
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 Met Leu Arg Gly Ile Ser Gln Leu Pro Ala Val Ala Thr Met Ser Trp
 1 5 10 15
 gtc ctg ctg cct gta ctt tgg ctc att gtt caa act caa gca ata gcc 156
 Val Leu Leu Pro Val Leu Trp Leu Ile Val Gln Thr Gln Ala Ile Ala
 20 25 30
 ata aag caa aca cct gaa tta acg ctc cat gaa ata gtt tgt cct aaa 204
 Ile Lys Gln Thr Pro Glu Leu Thr Leu His Glu Ile Val Cys Pro Lys
 35 40 45

aaa ctt cac att tta cac aaa aga gag atc aag aac aac cag aca gaa	252
Lys Leu His Ile Leu His Lys Arg Glu Ile Lys Asn Asn Gln Thr Glu	
50 55 60	
aag cat ggc aaa gag gaa agg tat gaa cct gaa gtt caa tat cag atg	300
Lys His Gly Lys Glu Glu Arg Tyr Glu Pro Glu Val Gln Tyr Gln Met	
65 70 75 80	
atc tta aat gga gaa gaa atc att ctc tcc cta caa aaa acc aag cac	348
Ile Leu Asn Gly Glu Glu Ile Ile Leu Ser Leu Gln Lys Thr Lys His	
85 90 95	
ctc ctg ggg cca gac tac act gaa aca ttg tac tca ccc aga gga gag	396
Leu Leu Gly Pro Asp Tyr Thr Glu Thr Leu Tyr Ser Pro Arg Gly Glu	
100 105 110	
gaa att acc acg aaa cct gag aac atg gaa cac tgt tac tat aaa gga	444
Glu Ile Thr Thr Lys Pro Glu Asn Met Glu His Cys Tyr Tyr Lys Gly	
115 120 125	
aac atc cta aat gaa aag aat tct gtt gcc agc atc agt act tgt gac	492
Asn Ile Leu Asn Glu Lys Asn Ser Val Ala Ser Ile Ser Thr Cys Asp	
130 135 140	
ggg ttg aga gga tac ttc aca cat cat cac caa aga tac cag ata aaa	540
Gly Leu Arg Gly Tyr Phe Thr His His His Gln Arg Tyr Gln Ile Lys	
145 150 155 160	
cct ctg aaa agc aca gac gag aaa gaa cat gcc gtc ttt aca tct aac	588
Pro Leu Lys Ser Thr Asp Glu Lys Glu His Ala Val Phe Thr Ser Asn	
165 170 175	
cag gag gaa caa gac cca gct aac cac aca tgt ggt gtg aag agc act	636
Gln Glu Glu Gln Asp Pro Ala Asn His Thr Cys Gly Val Lys Ser Thr	
180 185 190	
gac ggg aaa caa ggc cca att cga atc tct aga tca ctc aaa agc cca	684
Asp Gly Lys Gln Gly Pro Ile Arg Ile Ser Arg Ser Leu Lys Ser Pro	
195 200 205	
gag aaa gaa gac ttt ctt cgg gca cag aaa tac att gat ctc tat ttg	732
Glu Lys Glu Asp Phe Leu Arg Ala Gln Lys Tyr Ile Asp Leu Tyr Leu	
210 215 220	
gtg ctg gat aat gcc ttt tat aag aac tat aat gag aat cta act ctg	780
Val Leu Asp Asn Ala Phe Tyr Lys Asn Tyr Asn Glu Asn Leu Thr Leu	
225 230 235 240	
ata aga agc ttt gtg ttt gat gtg atg aac cta ctc aat gtg ata tat	828
Ile Arg Ser Phe Val Phe Asp Val Met Asn Leu Leu Asn Val Ile Tyr	
245 250 255	
aac acc ata gat gtt caa gtg gcc ttg gta ggt atg gaa atc tgg tct	876
Asn Thr Ile Asp Val Gln Val Ala Leu Val Gly Met Glu Ile Trp Ser	
260 265 270	
gat ggg gat aag ata aag gtg gtg ccc agc gca agc acc acg ttt gac	924
Asp Gly Asp Lys Ile Lys Val Pro Ser Ala Ser Thr Thr Phe Asp	
275 280 285	
aac ttc ctg aga tgg cac agt tct aac ctg ggg aaa aag atc cac gac	972

Asn	Phe	Leu	Arg	Trp	His	Ser	Ser	Asn	Leu	Gly	Lys	Lys	Ile	His	Asp	
290						295					300					
cat	gct	cag	ctt	ctc	agc	ggg	att	agc	ttc	aac	aat	cga	cgt	gtg	gga	1020
His	Ala	Gln	Leu	Leu	Ser	Gly	Ile	Ser	Phe	Asn	Asn	Arg	Arg	Val	Gly	
305					310					315					320	
ctg	gca	gct	tca	aat	tcc	ttg	tgt	tcc	cca	tct	tcg	gtt	gct	gtt	att	1068
Leu	Ala	Ala	Ser	Asn	Ser	Leu	Cys	Ser	Pro	Ser	Ser	Val	Ala	Val	Ile	
				325					330					335		
gag	gct	aaa	aaa	aag	aat	aat	gtg	gct	ctt	gta	gga	gtg	atg	tca	cat	1116
Glu	Ala	Lys	Lys	Lys	Asn	Asn	Val	Ala	Leu	Val	Gly	Val	Met	Ser	His	
			340					345					350			
gag	ctg	ggc	cat	gtc	ctt	ggg	atg	cct	gat	gtt	cca	ttc	aac	acc	aag	1164
Glu	Leu	Gly	His	Val	Leu	Gly	Met	Pro	Asp	Val	Pro	Phe	Asn	Thr	Lys	
		355					360					365				
tgt	ccc	tct	ggc	agt	tgt	gtg	atg	aat	cag	tat	ctg	agt	tca	aaa	ttc	1212
Cys	Pro	Ser	Gly	Ser	Cys	Val	Met	Asn	Gln	Tyr	Leu	Ser	Ser	Lys	Phe	
	370					375					380					
cca	aag	gat	ttc	agt	aca	tct	tgc	cgt	gca	cat	ttt	gaa	aga	tac	ctt	1260
Pro	Lys	Asp	Phe	Ser	Thr	Ser	Cys	Arg	Ala	His	Phe	Glu	Arg	Tyr	Leu	
					390					395					400	
tta	tct	cag	aaa	cca	aag	tgc	ctg	ctg	caa	gca	cct	att	cct	aca	aat	1308
Leu	Ser	Gln	Lys	Pro	Lys	Cys	Leu	Leu	Gln	Ala	Pro	Ile	Pro	Thr	Asn	
				405					410					415		
ata	atg	aca	aca	cca	gtg	tgt	ggg	aac	cac	ctt	cta	gaa	gtg	gga	gaa	1356
Ile	Met	Thr	Thr	Pro	Val	Cys	Gly	Asn	His	Leu	Leu	Glu	Val	Gly	Glu	
				420				425					430			
gac	tgt	gat	tgt	ggc	tct	cct	aag	gag	tgt	acc	aat	ctc	tgc	tgt	gaa	1404
Asp	Cys	Asp	Cys	Gly	Ser	Pro	Lys	Glu	Cys	Thr	Asn	Leu	Cys	Cys	Glu	
		435					440				445					
gcc	cta	acg	tgt	aaa	ctg	aag	cct	gga	act	gat	tgc	gga	gga	gat	gct	1452
Ala	Leu	Thr	Cys	Lys	Leu	Lys	Pro	Gly	Thr	Asp	Cys	Gly	Gly	Asp	Ala	
	450					455					460					
cca	aac	cat	acc	aca	gag	tga	atccaaagtc	tgcttcactg	agatgctacc							1503
Pro	Asn	His	Thr	Thr	Glu	*										
465					470											
ttgccaggac	aagaaccaag	aactctaact	gtcccaggaa	tcttgtgaat	tttcacccat											1563
aatgggtcttt	cacttgtcat	tctacttttct	atattgttat	cagtccagga	aacaggtaaa											1623
cagatgtaat	tagagacatt	ggctctttgt	ttaggcctaa	tctttctttt	tacttttttt											1683
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gaatagaatt	cagggttttat	gttattcctc	tgtgttctact	tcgccttgct	cttgaaagtg											1983
cagtattttt	ctacatcatg	tcgagaatga	ttcaatgtaa	atatttttca	ttttatcatg											2043
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<210> 52

<211> 470
 <212> PRT
 <213> Homo sapiens

<400> 52

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Val	Leu	Leu	Pro	Val	Leu	Trp	Leu	Ile	Val	Gln	Thr	Gln	Ala	Ile	Ala
			20					25					30		
Ile	Lys	Gln	Thr	Pro	Glu	Leu	Thr	Leu	His	Glu	Ile	Val	Cys	Pro	Lys
		35					40					45			
Lys	Leu	His	Ile	Leu	His	Lys	Arg	Glu	Ile	Lys	Asn	Asn	Gln	Thr	Glu
	50					55					60				
Lys	His	Gly	Lys	Glu	Glu	Arg	Tyr	Glu	Pro	Glu	Val	Gln	Tyr	Gln	Met
65					70					75					80
Ile	Leu	Asn	Gly	Glu	Ile	Ile	Leu	Ser	Leu	Gln	Lys	Thr	Lys	His	
				85				90					95		
Leu	Leu	Gly	Pro	Asp	Tyr	Thr	Glu	Thr	Leu	Tyr	Ser	Pro	Arg	Gly	Glu
			100					105					110		
Glu	Ile	Thr	Thr	Lys	Pro	Glu	Asn	Met	Glu	His	Cys	Tyr	Tyr	Lys	Gly
		115					120					125			
Asn	Ile	Leu	Asn	Glu	Lys	Asn	Ser	Val	Ala	Ser	Ile	Ser	Thr	Cys	Asp
		130				135					140				
Gly	Leu	Arg	Gly	Tyr	Phe	Thr	His	His	His	Gln	Arg	Tyr	Gln	Ile	Lys
145					150					155					160
Pro	Leu	Lys	Ser	Thr	Asp	Glu	Lys	Glu	His	Ala	Val	Phe	Thr	Ser	Asn
			165						170					175	
Gln	Glu	Glu	Gln	Asp	Pro	Ala	Asn	His	Thr	Cys	Gly	Val	Lys	Ser	Thr
			180					185					190		
Asp	Gly	Lys	Gln	Gly	Pro	Ile	Arg	Ile	Ser	Arg	Ser	Leu	Lys	Ser	Pro
		195				200						205			
Glu	Lys	Glu	Asp	Phe	Leu	Arg	Ala	Gln	Lys	Tyr	Ile	Asp	Leu	Tyr	Leu
		210				215					220				
Val	Leu	Asp	Asn	Ala	Phe	Tyr	Lys	Asn	Tyr	Asn	Glu	Asn	Leu	Thr	Leu
225					230					235					240
Ile	Arg	Ser	Phe	Val	Phe	Asp	Val	Met	Asn	Leu	Leu	Asn	Val	Ile	Tyr
			245						250					255	
Asn	Thr	Ile	Asp	Val	Gln	Val	Ala	Leu	Val	Gly	Met	Glu	Ile	Trp	Ser
			260					265					270		
Asp	Gly	Asp	Lys	Ile	Lys	Val	Val	Pro	Ser	Ala	Ser	Thr	Thr	Phe	Asp
		275					280					285			
Asn	Phe	Leu	Arg	Trp	His	Ser	Ser	Asn	Leu	Gly	Lys	Lys	Ile	His	Asp
		290				295					300				
His	Ala	Gln	Leu	Leu	Ser	Gly	Ile	Ser	Phe	Asn	Asn	Arg	Arg	Val	Gly
305					310					315					320
Leu	Ala	Ala	Ser	Asn	Ser	Leu	Cys	Ser	Pro	Ser	Ser	Val	Ala	Val	Ile
			325						330					335	
Glu	Ala	Lys	Lys	Lys	Asn	Asn	Val	Ala	Leu	Val	Gly	Val	Met	Ser	His
			340					345					350		
Glu	Leu	Gly	His	Val	Leu	Gly	Met	Pro	Asp	Val	Pro	Phe	Asn	Thr	Lys
		355					360					365			
Cys	Pro	Ser	Gly	Ser	Cys	Val	Met	Asn	Gln	Tyr	Leu	Ser	Ser	Lys	Phe
		370				375					380				
Pro	Lys	Asp	Phe	Ser	Thr	Ser	Cys	Arg	Ala	His	Phe	Glu	Arg	Tyr	Leu
385					390					395					400
Leu	Ser	Gln	Lys	Pro	Lys	Cys	Leu	Leu	Gln	Ala	Pro	Ile	Pro	Thr	Asn
				405					410					415	
Ile	Met	Thr	Thr	Pro	Val	Cys	Gly	Asn	His	Leu	Leu	Glu	Val	Gly	Glu
			420					425					430		
Asp	Cys	Asp	Cys	Gly	Ser	Pro	Lys	Glu	Cys	Thr	Asn	Leu	Cys	Cys	Glu
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 Pro Asn His Thr Thr Glu
 465 470

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 <212> PRT
 <213> Artificial Sequence

<220>
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<221> VARIANT
 <222> (6)...(6)
 <223> D-isomer

<400> 53
 Trp Lys Tyr Met Val Met
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